UNITED STATES DEPARTMENT OF THE INTERIOR
BLM, LOWER SNAKE RIVER DISTRICT

EA Title Page

Applicant (if any) **None (BLM Action)**		Proposed Action: **Grazing Permit Renewals for Trout Springs and Hanley FFR allotments**			EA No. **ID-096-02030**
State **Idaho**	County **Owyhee**	District **Lower Snake River**	Field Office **Owyhee**	Authority **NEPA, FLPMA & Taylor Grazing Act**	
Prepared By **ID Team**		Title **Various**			Report Date

LANDS INVOLVED

Meridian	Township	Range	Section(s)	Acres
Boise	**10 and 11 South**	**4, 5 and 6 West**	**Various - See Maps**	**29,097**

Environmental Assessment

#ID-096-02030

U.S. Department of the Interior
Bureau of Land Management
Lower Snake River District
Owyhee Field Office

March 2002

UNITED STATES DEPARTMENT OF THE INTERIOR
BLM, LOWER SNAKE RIVER DISTRICT

Environmental Assessment No. ID-096-02030 Face Sheet

Consideration of Critical Elements

	N/A or Not Present	Applicable or Present, No Impact	Discussed in EA
Air Quality Concerns		X	
Areas of Critical Environmental Concern	X		
Cultural Resources			X
Environmental Justice (E.O. 12898)	X		
Floodplains	X		
Hazardous Substances or Solid Wastes	X		
Native American Religious Concerns	X		
Noxious Weeds, Invasive Species			X
Prime or Unique Farm Land	X		
Special Status Species			X
Water Quality Concerns			X
Wetlands/Riparian Zones			X
Wild and Scenic Rivers (Eligible)			X
Wilderness Study Areas			X
Wild Horse Herd Management Areas	X		

BLM Staff Input/Review

Name	Resource Expertise
Bruce Zoellick	Riparian Areas/Water Quality
Valerie Geertson	Botany/Special Status Plants
Mike Mathis	Wildlife/Special Status Animals
Bill Reimers	Range Management/Upland Vegetation
Paul Seronko	Soils
Judi Zuckert	Recreation/Visual Resources/WSA
Lois Palmgren	Cultural Resources

Environmental Assessment # ID-096-02030

Grazing Permit Renewals
for the Trout Springs and Hanley FFR Allotments

I. INTRODUCTION

A. Purpose and Need for the Proposed Action

The purpose of the proposed action is to authorize livestock grazing and related management facilities on public lands in accordance with applicable laws and regulations. The proposed action is needed to correct unacceptable resource conditions in the Trout Springs (#0539), and Hanley FFR (#0453) allotments. The purpose of this environmental assessment (EA) is to analyze the impacts of the proposed livestock grazing management practices and projects. Also, this EA will help the BLM authorized officer formulate informed grazing management decisions that are in conformance with the land use plan objectives, in compliance with Idaho Standards for Rangeland Health, and consistent with the Guidelines for Livestock Grazing Management.

B. Relationship to EA #ID-096-01037

Proposed decisions to renew the grazing permits on the Trout Springs allotment were issued on January 2, 2002. The associated National Environmental Policy Act (NEPA) document analyzing the environmental impacts was EA #ID-096-01037, which analyzed four alternatives. After reviewing the comments on the EA and proposed decisions the Authorized Officer decided to analyze additional alternatives. The four alternatives analyzed in EA #ID-096-01037 and two new alternatives developed during the scoping process are analyzed in this EA or EA #ID-096-02030.

C. Conformance with the Land Use Plan

The Owyhee Resource Management Plan (ORMP) was approved on December 30, 1999. It is the land use plan that guides public land management, including the grazing management program, in the area where the two subject allotments are located. The proposed action is in conformance with the ORMP, as required by 43 CFR 1610.5-3(a). Specifically, the proposed action is designed to achieve Objective LVST 1 (identified on page 23 of the ORMP), which is to provide for a sustained level of livestock use compatible with meeting other resource objectives. Also, the proposed action is in conformance with other ORMP objectives for soils, water, vegetation, riparian/wetland, fisheries, special status species, recreation, visual resources, cultural resources, and wilderness study areas.

This EA is tiered to the 1999 RMP/EIS. Copies of the RMP/EIS are available at BLM's Lower Snake River District Office, and the document is also available for viewing and downloading on BLM's Idaho State Office internet web site http://www.id.blm.gov/. The RMP/EIS broadly analyzes environmental issues relating to public land uses and resource allocations. Consistent with the provisions of 40 CFR 1502.20, the environmental analysis included in the RMP/EIS is incorporated here by reference, and this EA focuses on the environmental issues specific to

renewing livestock grazing permits on the Trout Springs and Hanley FFR Allotments.

D. Relationship to Statutes, Regulations, and Other Requirements

1. Standards and Guidelines

On August 12, 1997, "Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management," were approved by the Secretary of the Interior. Subsequently, livestock management practices must be in conformance with the approved standards and guidelines.

2. Federal Order

On March 31, 1999, B. Lynn Winmill, Chief Judge, U.S. District Court, signed a Memorandum Decision and Order (Civil Case No. 97-0519-S-BLW) finding that BLM violated NEPA by renewing 68 grazing permits in 1997. That decision did not impose a remedy to cure the NEPA violation. However, on February 29, 2000, B. Lynn Winmill signed a Memorandum Decision and Order (Civil Case No. 97-0519-S-BLW) ordering the BLM to complete the review of 68 permits under the new Owyhee Resource Management Plan and Environmental Impact Statement (RMP/EIS) and the BLM's Standards and Guidelines for the highest priority allotments by the end of 2003, and the remaining allotments by the end of 2006. The Trout Springs Allotment is a "highest priority allotment."

As directed by Judge Winmill on July 6, 2001, the BLM has completed Standards and Guidelines Assessments and Determinations for the Trout Springs and Hanley FFR allotments. The BLM's Authorized Officer has determined that existing grazing management practices and /or levels of grazing use on public lands are significant factors resulting in failure to achieve the standards for rangeland health and conform with the guidelines for grazing administration.

3. North and Middle Fork TMDL

The proposed action is needed to improve water quality for those streams identified as water quality limited in the 1999 "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load" document prepared for the State of Idaho by the DEQ. A Water Quality Restoration Plan (WQRP) for that portion of the North and Middle Fork Owyhee Subbasin within Trout Springs Allotment and Hanley FFR Allotment has been prepared and is incorporated into the proposed action. (See Appendix 1). According to the above document, an implementation plan will be developed within 18 months of EPA TMDL approval. The TMDL was approved in February 2000.

In 1998 five water bodies in the Trout Springs allotment were classified by the Environmental Protection Agency (EPA) under 303(d) of the Clean Water Act as water quality limited for the following reasons:

North Fork Owyhee River - High temperature and excessive bacteria.
Middle Fork Owyhee River - Excessive sediment, high temperature, flow alteration
Red Canyon Creek - Excessive sediment, high temperature, flow alteration
Squaw Creek - Excessive sediment, high temperature, flow alteration
Pleasant Valley Creek - Excessive sediment, high temperature, flow alteration

Results of monitoring in 1999 by State of Idaho Department of Environmental Quality (DEQ) show that existing uses of the North Fork Owyhee River and tributaries include: cold water biota, salmonid spawning and rearing (redband trout), primary contact recreation, secondary contact recreation, and agricultural water supply. Additional uses designated for the North Fork Owyhee River include domestic water supply and special resource waters.

All water bodies are required to meet Idaho water quality standards for designated beneficial uses within the State of Idaho. Also, Section 401 of the Clean Water Act states that in the case of interstate waters where state criteria differ, the standards of the down stream state must be met at the border.

The State of Oregon water quality standards classify the North and Middle Fork Owyhee Rivers to be protected for public domestic water supply, private domestic water supply, livestock watering, salmonid fish rearing, salmonid fish spawning, resident fish and aquatic life, wildlife hunting, fishing, boating, water contact recreation, and aesthetic quality.

The State of Oregon included the Middle Fork Owyhee and North Fork Owyhee Rivers on their 1998 303(d) list. The section of Squaw Creek down stream from the Idaho/Oregon border has not been listed at this time. The State of Oregon Department of Environmental Quality's water quality and beneficial use support assessment for the North and Middle Fork Owyhee Rivers indicate that temperature is a pollutant of concern.

Stream temperature data from water bodies within the North and Middle Fork Owyhee Hydrologic Unit (HUC) show that stream temperatures exceed the current Idaho and Oregon water quality standards for cold water biota, salmonid rearing and salmonid spawning during the designated spawning period. Therefore the "North and Middle Fork Subbasin Assessment and Total Maximum Daily Load" (TMDL) document was prepared in 1999. Data collected and reviewed during this process did not support the excessive sediment classification, however there can be no increases to the current sediment load that would impair existing uses. This data collection and review process also did not indicate an excess of bacteria in the system, therefore no bacteria load reduction was proposed. EPA does not require flow alteration to be addressed as a TMDL pollutant, therefore flow alteration is not addressed.

All pollutants listed in the 1998 303(d) list are nonpoint sources originating on public, state or private lands within fourth order hydrologic unit (HUC17050107) which in part includes the North and Middle Fork Owyhee Rivers and their tributaries in southwest Idaho. They drain generally west from Idaho into Oregon from the South Mountain and Juniper Mountain areas of

the Owyhee Mountain range. The streams listed above for the Trout Springs grazing allotment originate on the north and west slopes of Juniper Mountain, with the exception of North Fork Owyhee River which originates on the south slope of South Mountain. These waters are used primarily for livestock grazing and fish and wildlife habitat with some limited hay production on private lands.

All the listed pollutants, with the exception of flow modification, are the result of streambank damage and loss of streambank shade due to livestock grazing.

E. Grazing Allotment and Permit Background

The Trout Springs Allotment (0539) is located in southwestern Owyhee County, Idaho, approximately 30 miles south of Jordan Valley, Oregon. The allotment lies in the Owyhee Mountains and includes Juniper Mountain. The North Fork of the Owyhee River forms the northern boundary, the southern boundary lies on the south side of Juniper Mountain, and Squaw Creek forms a portion of the western boundary. Elevations on the allotment range from around 4800 feet along the North Fork Owyhee River to over 6700 feet at Stauffer Flat on Juniper Mountain.

The Hanley FFR Allotment (0453) is located at Cliffs, Idaho, approximately 2 miles north of the Trout Springs Allotment. Elevations of this allotment are generally around 5100 feet.

The land ownership status for the allotments is as follows:

Allotment	Pasture	Federal	State	Private	Total
Trout Springs	1	12,402	0	116	12,518
	2	11,854	64	98	12,016
	3	3,389	6	7	3,402
	4	1,390	364	0	1,754
Total		29,035	434	221	29,690
Hanley FFR	1	63	0	598	662

The permitted use (AUMs) for both allotments is as follows:

Allotment	**Permittee**	**Total**	**Suspended Use**	**Active Use**	**Exchange of Use**	**Total Use**	**% BLM AUMs**
Trout Springs	Payne	201	87	114	0	114	100
Trout Springs	Hanley	4965	2152	2813	0	2813	100
Hanley FFR	Hanley	7	0	7	0	7	100

II. DESCRIPTION OF THE ALTERNATIVES

The Trout Springs allotment includes rough, steep, broken topography that is dominated by western juniper, mountain mahogany and other mountain shrubs. These features hinder gathering by visually screening the cattle, making it difficult to locate them. Also, there are areas where it is nearly impossible to ride horses, increasing the difficulty in gathering cattle. Actual use reports indicate that frequently cattle remain well after the period they are authorized. The issue of gathering all cattle as proposed in the different alternatives is elevated when the number of moves between and through pastures increases. This is due to the increased possibility of leaving cattle behind or losing them when trailing through the juniper uplands. The Trout Springs allotment's many rough and rugged topographic features and thick vegetative screening would impede the ability to implement intensive grazing management on this allotment. Fencing can reduce but not eliminate the concern to move and gather cattle as proposed. The different alternatives have been analyzed as though cattle are gathered or moved between pastures as proposed.

A. Alternative 1 - No Grazing (Map 1)

Permitted Use:

The no grazing alternative equates to not permitting grazing on the Trout Springs and Hanley FFR Allotments. No livestock would be authorized to graze on 29,034 acres of public land on the Trout Springs allotment and 63 acres of public land on the Hanley FFR Allotment.

Grazing Management:

No livestock grazing would be permitted on public land under this alternative.

B. Alternative 2 - Present Situation (Map 2)

Under this alternative, current grazing practices and management would continue and no rangeland management projects would be constructed.

Permitted Use:

Permittee	Allotment	Livestock No. & Kind		Start Date	End Date	% PL	Permitted AUMs
Payne	Trout Springs	35	C	4/8	6/15	100	78
Payne	Trout Springs	5	H	4/8	11/15	100	36
Hanley	Trout Springs	555	C	6/15	11/15	100	2813
Hanley	Hanley FFR	7	C	12/1	12/31	100	7
						Total	2934

Grazing Management:

Under this alternative, cattle would be authorized to graze from 6/15 through 11/15 in Pastures 1, 2 and 3 every year and from 4/8 to 11/15 in Pasture 4 every year. Generally, Pasture 2 would be grazed from 6/15 to 7/31 and Pastures 1 and 3 would be grazed from 8/1 to 11/15. The fences separating pasture 2 from pasture 3 and pasture 3 from pasture 1 are not effective and livestock would likely enter pastures 1, 2 and 3 at various times during the overall authorized season of use. Some cattle would also likely enter pastures 1 & 3 in June and Pasture 2 at various times, especially in late summer or early fall as cattle start to drift back toward the base properties. In the past, actual use reports indicate cattle are gathered from the Trout Springs Allotment well after the authorized season ended. The last cattle would be gathered in December, only after heavy snows force cattle to lower elevations. Pasture 4 of the Trout Springs Allotment would generally be grazed beginning 4/8 and ending 11/15. The Fairylawn Pasture 5 discussed under the proposed action alternative would be considered a portion of Pasture 2 under this alternative.

The Hanley FFR allotment would be grazed at the discretion of the permittee. Generally, grazing would occur from May through December but especially during October and November as the permittee gathered the Trout Springs Allotment.

Pasture	**Use Period**
1	7/31 - 11/15
2	6/15 - 7/31
3	7/31 - 11/15
4	4/8 - 11/15
FFR	*

* Grazing would vary at the discretion of the permittee

Permit Terms and Conditions:

Permit terms and conditions specific to the Trout Springs and Hanley FFR allotment would be as follows:

1. All cattle 6 months of age and older must be eartagged with assigned color and number on the Trout Springs Allotment (#0539).

2. The number of livestock and season of use on the fenced in federal range (FFR) allotment #0453 is at your discretion.

3. A minimum 4 inch stubble height will be left on herbaceous vegetation within the riparian area along 2.0 miles of the Middle Fork of the Owyhee River, 1.0 mile of the North Fork of the Owyhee River, and 1.0 miles of Red Canyon Creek in allotment #0539 at the end of the growing season as identified in the fisheries objective of the Owyhee EIS.

4. Turnout is subject to Boise District Range Readiness Criteria.

5. Your certified actual use report is due within 15 days of completing your authorized annual grazing use.

6. Salt and/or supplement shall not be placed within one quarter (1/4) mile of springs, streams, meadows, aspen stands, playas, or water developments.

7. Changes to the scheduled use requires prior approval.

8. Trailing activities must be coordinated with the BLM prior to initiation. A trailing permit or similar authorization may be required prior to crossing public lands.

9. Livestock exclosures located within your grazing allotments are closed to all domestic grazing use.

10. Range improvements must be maintained in accordance with the cooperative agreements and range improvement permits in which you are a signator or assignee. All maintenance of range improvements within a wilderness study area requires prior consultation with the authorized officer.

11. All appropriate documentation regarding base property leases, lands offered for exchange-of-use, and livestock control agreements must be notarized prior to submission and be in compliance with Boise District Policy.

12. Failure to pay the grazing bill within 15 days of the due date specified shall result in a late fee assessment of $25.00 or 10 percent of the grazing bill, whichever is greater, not to exceed $250.00. Payment made later than 15 days after the due date shall include the appropriate late fee assessment. Failure to make payment within 30 days may be a violation of 43 CFR 4140.1 (B) (1) and shall result in action by the authorized officer under 43 CFR 4150.1 and 4160.1.

13. Livestock grazing will be in accordance with your allotment grazing schematic(s). Changes in scheduled pasture use dates will require prior authorization.

14. Utilization may not exceed 50% of the current year’s growth.

As a result of the February 29, 2000, Memorandum Decision and Order by Judge B. Lynn Winmill, the following interim terms and conditions would also apply:

1. Key herbaceous riparian vegetation, where streambank stability is dependent upon it, will have a minimum stubble height of 4 inches on the streambank, along the greenline after the growing season;
2. Key riparian browse vegetation will not be used more than 50% of the current annual twig growth that is within reach of the animals;
3. Key herbaceous riparian vegetation on riparian areas, other than the streambanks, will not be grazed more than 50% during the growing season, or 60% during the dormant season;
4. Streambank damage attributable to grazing livestock will be less than 10% on a stream segment.

Rangeland Management Projects:

No rangeland management projects would be needed to implement this alternative.

C. Alternative 3 - Split Grazing Season (Map 3)

Permitted Use:

Permittee	**Allotment** ①	**Livestock No. & Kind**	**Start Date**	**End Date**	**% PL**	**AUMs**
Payne	Trout Springs	28 C, H	7/1	10/31	100	114
Hanley	Trout Springs	555 C	6/15	7/15	100	566
Hanley	Trout Springs	555 C	10/1	11/15	100	839
Hanley	Trout Springs	100 C	11/16	12/15	100	100
Hanley	Trout Springs②	4 C, H	7/1	12/31	100	25
Hanley	Hanley FFR	1 C, H	6/1	12/31	100	7
					Total	1651

①Ted Payne's use in the Trout Springs Allotment would be restricted to Pasture 4. Livestock numbers and livestock kind could vary but grazing levels would not exceed 114 AUMs. The season of use would not exceed the period shown above. Hanley Ranch grazing use would be restricted to Pastures 1, 2, 3 and Fairylawn 5.

② This grazing use would be restricted to the Fairylawn Pasture and livestock numbers and kind could vary but not to exceed 25 AUMs.

Grazing Management:

Under this alternative, Ted Payne's grazing use would be restricted to Pasture 4. Grazing would occur after 7/1 or seedripe of most perennial bunchgrasses. The livestock numbers could vary, but the maximum season of use would be 7/1 - 10/31 and grazing use levels would not exceed 114 AUMs. The kind of stock (cattle, yearlings, horses) could vary also.

The remainder of the Trout Springs allotment would be used by Hanley Ranch. The pasture configuration would change as noted under Rangeland Management Projects below. Pastures 2 or 3 would be grazed from 6/15 to 7/15. The pastures would be grazed for 2 years followed by rest for 2 years. The years Pasture 2 was grazed, Pasture 3 would be rested and vice versa. Pasture 1 would be grazed from 10/1 to 12/15. The Fairylawn Pasture would be grazed beginning 7/1 and ending 12/31. Hanley FFR Allotment would be grazed at the discretion of the permittee, however use would not exceed 50 percent utilization of key forage plants and grazing would occur between 6/1 and 12/31.

Pasture Name	**Authorized Use Period**
4	7/1 - 10/15
2	6/15 - 7/15 or Rest
3	Rest or 6/15 - 7/15
1	10/1 - 12/15
Fairylawn (5)	7/1 - 12/31
Hanley FFR	6/1 - 12/31

Permit Terms and Conditions:

Permit terms and conditions specific to the Trout Springs and Hanley FFR allotments would be as follows:

1. You are required to properly complete, sign and date an Actual Grazing Use Report Form (BLM Form 4130-5) for each allotment. The completed form(s) must be submitted to this office within 15 days from the last day of your authorized annual grazing use.

2. Supplemental feeding is limited to salt, mineral, and/or protein in block, granular, or liquid form. If used, these supplements must be placed at least one-quarter (1/4) mile away from any riparian area, spring, stream, meadow, aspen stand, playa, special status plant population, or water development.

3. Pursuant to 43 CFR 10.4(b), you must notify the BLM Field Manager, by telephone with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2) on federal lands. Pursuant to 43 CFR 10.4(c), you must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects.

4. You are not authorized to graze livestock in the Trout Springs, Albiston Spring, Middle Fork Spring, Alto Spring, Three Springs, Loveland Spring, Cottonwood Creek, Cottonwood Headwaters and North Fork Owyhee River exclosures in the Trout Springs Allotment.

5. All cattle 6 months of age and older must be eartagged with an assigned color and number on the Trout Springs Allotment (#0539).

6. All maintenance of range developments within a wilderness study area requires prior approval from the authorized officer.

Short Term Objectives:

Listed below are short term objectives, in the form of grazing use guidelines that would be implemented under this alternative. Adherence to these guidelines and the prescribed grazing management program would be likely to maintain or make progress toward meeting rangeland health standards and land use plan objectives. Periodic evaluation and interpretation of these guidelines could provide an indication of the potential success of the grazing management program.

A. At the key areas in Pastures 1, 2, 3 and 4 shown on the attached Monitoring Location Map, utilization of bluebunch wheatgrass, needlegrass, bottlebrush squirreltail, Idaho Fescue or mountain brome will not exceed 50 percent of the current year's growth as determined by the Qualitative Assessment Landscape Appearance Method or the Key Species Method.

B. A minimum of 6 inches of median stubble height will remain on key hydric herbaceous species such as Nebraska sedge and beaked sedge at the end of the grazing period in the riparian area along Middle Fork Owyhee River, North Fork Owyhee River, Cottonwood Creek, Pleasant Valley Creek, Thomas Creek, Little Thomas Creek, West Fork Red Canyon Creek, Smith Creek, Little Smith Creek, Hells Creek and Squaw Creek as measured at key areas shown on the attached Monitoring Location Map.

C. In any given year, in the riparian areas along those stream listed above, browsing on woody species, including but not limited to willow, will be limited to an incidence of use not to exceed 25 percent on young woody plants less than three (3) feet in height as measured at key areas shown on the attached Monitoring Location Map.

D. Streambank alteration attributable to livestock grazing (pugging, shearing, trails, trampling) will be less than ten (10) percent as measured at the key areas shown on the attached Monitoring Location Map.

Rangeland Management Projects:

The following projects would be necessary to implement this alternative. See Map 3 for approximate locations of these projects. These projects would require some off road travel for survey, design and construction or removal. No motorized travel would occur within WSAs. Some cutting of western juniper would be required to build new fences. New fences would be built to comply with the Standard BLM 3-wire design.

a. The Breaks Fence: This fence would be constructed to divide Pasture 1 from Pasture 2. This fence would be approximately 2.75 miles long. See Map 3 for the general location of this proposed fence. This fence would be built and maintained by the permittee (Hanley). Materials would be supplied by BLM.

b. Stauffer Flat Fence: This fence would be constructed to divide Pasture 1 from Pasture 3. This fence would be approximately 3.25 miles long. See Map 3 for general location of this fence. This fence would be a "let down" due to the heavy snows that accumulate in these areas. This fence would be built and maintained by the permittee (Hanley). Materials would be supplied by BLM.

c. Fence removal: Portions of the Juniper Mountain Management Fences (5382) would be removed. These fences were to form a portion of the existing Pasture 3 boundary. The fences have not functioned as originally designed and now act as little more than drift fences. Approximately 3.25 miles of fence would be removed. BLM would remove these fences.

d. Albiston Spring: A spring would be developed so cattle could water at the southern portion of Pasture 2. The spring is located at the head of Cottonwood Creek. The spring development would capture no more than 50% of the flow, trough overflow would directed back into the drainage and the source water area of the spring and associated riparian vegetation would be protected from livestock grazing impacts. See Map 3 for location of spring. The spring would be developed by BLM. The materials would be supplied by BLM. The project, including the exclosure fence (approximately ½ acre), would be maintained by the permittee.

e. Middle Fork Spring: A spring would be developed so cattle could water at the southern portion of Pasture 1. The spring is located at the head of the Middle Fork of the Owyhee River. The spring would capture no more than 50% of the flow, trough overflow would directed back into the drainage and the source water area of the spring and associated riparian vegetation would be protected from livestock grazing impacts. See Map 3 for location of the spring. The spring would be developed by BLM. The materials would be supplied by BLM. The project, including exclosure fence (approximately ½ acre), would be maintained by the permittee (Hanley).

Interim Management

In the event that the management fences discussed under the proposed action are not constructed prior to the proposed livestock beginning authorization date of June 15, 2002, livestock management would not be authorized in Pastures 1, 2 and 3 until October 1 and could graze until December 15.

D. Alternative 4 - Deferred Rotation (Map 4)

Permitted Use:

This alternative addresses grazing on Pastures 1, 2 and 3 only. Grazing on Pastures 4, 5 (Fairylawn) and Hanley FFR allotment would be the same as that described under Alternative 3 - Proposed Action and therefore, will not be repeated under this alternative.

Permittee	Allotment	Livestock No. & Kind	Start Date	End Date	% PL	AUMs
Hanley	Trout Springs	600 C	6/16	10/30	100	2704

Grazing Management:

Under this alternative, the allotment would be grazed beginning June 16 and ending October 30. The pasture configuration would change as noted under the "Rangeland Management Projects" section shown below and as shown on Map 4.

The seasons of grazing use in Pastures A and B would alternate between late spring/early summer (6/16 - 7/7) and early fall (9/30 - 10/30).

The periods of grazing use in Pastures C, D & E would be approximately either July, August or September. These three periods of use would be rotated over a three year period so that the pastures would be grazed every year but at slightly different timeframes each of the three years. Pasture C would be grazed for a slightly shorter time due to the reduced carrying capacity of this pasture. Please see chart below for proposed use periods.

Pasture	Use Period	Year
A	6/16 - 7/7	1
	9/30 - 10/30	2
B	9/30 - 10/30	1
	6/16 - 7/7	2
C	7/8 - 7/29	1
	9/8 - 9/29	2
	8/8 - 8/29	3
D	7/30 - 8/29	1
	7/8 - 8/7	2
	8/30 - 9/29	3
E	8/30 - 9/29	1
	8/8 - 9/7	2
	7/8 - 8/7	3

Permit Terms and Conditions:

Same as those described under Alternative 2

Rangeland Management Projects:

The following projects would be necessary to implement this alternative. See Map 4 for the appropriate locations of the projects. These projects would require some off road travel for survey, design and construction or removal of fences. No motorized travel would occur within WSAs. Some cutting of western juniper would be required to build new fences. New fences would be built to comply with the Standard BLM 3-wire design.

a. Stauffer Flat Fence: This fence would be the same as that described under Alternative 3.

b. Grave Creek Fence: This fence would be constructed to divide Pasture A from Pasture B. This fence would be approximately 1.8 miles long. See Map 4 for general location of this fence. This fence would be built and maintained by the permittee (Hanley). Materials would be supplied by BLM.

c. Juniper Mountain Management Fences Extensions: The existing fencelines shown on Map 4 that separate Pasture B from C and Pasture C from D-E do not traverse the entire allotment. Both of these fences currently tie in to broken rim-rock that allows livestock to move between pastures. To stop the movement of cattle between pastures would require the addition of approximately 1.5 miles of fence. The fences would be built in extremely rough terrain with very limited access in the canyon adjacent to Squaw Creek. The fences would be built and maintained by the permittee (Hanley) and the materials would be supplied by BLM. No motorized vehicles or motorized equipment would be used to construct these fences.

d. Gather Field Fence: This fence would be built to enlarge the current gathering field. It would be approximately 1.1 mile long. The purpose of the fence would be to include Cottonwood Creek into the gathering field which would be grazed in late September when cattle would be trailed from Pastures C, D & E to Pasture A every other year. Approximate ½ mile of existing fence would be removed. This fence would be built/removed and maintained by the permittee. The materials would also be supplied by the permittee.

E. Alternative 5 - Proposed Action (Map 5)

Permitted Use:

Permittee	Allotment	Livestock No. & Kind		Start Date	End Date	% PL	AUMs
Payne	Trout Springs ①	28	C/H	7/1	10/31	100	114
Hanley	Trout Springs	555	C	6/15	8/30④	100	1405
Hanley	Trout Springs ②	4	C/H	6/1	12/31	100	25
Hanley	Hanley FFR ③	1	C/H	6/1	12/31	100	7

① Ted Payne's use in the Trout Springs Allotment would be restricted to Pasture 4. Livestock numbers and livestock kind could vary but grazing levels would not exceed 114 AUMs. The season of use would not exceed the period shown above. Hanley Ranch grazing use would be restricted to Pastures 1, 2, 3 and Fairylawn 5.

② This grazing use would be restricted to the Fairylawn Pasture and livestock numbers and kind could vary but not to exceed 25 AUMs.

③This grazing use would be restricted to the Hanley FFR allotment and livestock numbers and kind could vary but not exceed 7 AUMs.

④ The season of use in Pasture 2 of the Trout Springs allotment may be extended by reducing cattle numbers. Grazing use would not exceed 839 AUMs. The season of use would not exceed Oct 15.

Grazing Management:

This alternative addresses changes within Pastures 1, 2 and 3 on the Trout Springs allotment only. Changes within Pastures 4 and 5 on the Trout Springs allotment and the Hanley FFR allotment would be as described under Alternative 3.

The pasture configuration would change as noted under the Rangeland Management Projects section below and as shown on Map 5. Pastures 1 and 3 would be grazed from June 15 to July 15. The pastures would be grazed for two years followed by two years of rest or no grazing. The years Pasture 1 is grazed, Pasture 3 would not be grazed and vice versa. Pasture 2 would be grazed from July 16 to August 30 every year. Please see the following chart for a graphic display of the four year grazing sequence by pasture.

Pasture Name	Authorized Use Period Year I	Year II	Year III	Year IV
1	6/15-7/15	6/15-7/15	Rest	Rest
3	Rest	Rest	6/15-7/15	6/15-7/15
2	7/16-8/30 ①	7/16-8/30①	7/16-8/30 ①	7/16-8/30 ①

① The season of use could be extended until 10/15 by reducing cattle numbers and not exceeding 839 AUMs.
The grazing program would repeat beginning the fifth year.
The Gathering Pasture would be grazed for a few days around June 15 when trailing to Pastures 1 and 3 and again for a few days around July 15 when trailing from Pastures 1 and 3 to Pasture 2.

Permit Terms and Conditions:

Permit terms and conditions specific to the Trout Springs and Hanley FFR allotments would be as follows:

1. You are required to properly complete, sign and date an Actual Grazing Use Report Form (BLM Form 4130-5) for each allotment. The completed form(s) must be submitted to this office within 15 days from the last day of your authorized annual grazing use.

2. Supplemental feeding is limited to salt, mineral, and/or protein in block, granular, or liquid form. If used, these supplements must be placed at least one-quarter (1/4) mile away from any riparian area, spring, stream, meadow, aspen stand, playa, special status plant population, or water development.

3. Pursuant to 43 CFR 10.4(b), you must notify the BLM Field Manager, by telephone with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2) on federal lands. Pursuant to 43 CFR 10.4(c), you must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects.

4. You are not authorized to graze livestock in the Trout Springs, Albiston Spring, Middle Fork Spring, Alto Spring, Three Springs, Loveland Spring, Cottonwood Creek, Cottonwood Headwaters and North Fork Owyhee River exclosures in the Trout Springs Allotment.

5. All cattle 6 months of age and older must be eartagged with an assigned color and number on the Trout Springs Allotment (#0539).

6. All minimum of 6-inches of median stubble height will remain on key hydric herbaceous species such as Nebraska sedge and beaked sedge at the end of the grazing season in the riparian area along the North Fork of the Owyhee River as measured at the key area shown on the attached Monitoring Location Map. Failure to meet this term and condition will result in reducing the season of use by one week the following year.

7. All maintenance of range developments within a wilderness study area requires prior approval from the authorized officer.

Short Term Objectives:

Listed below are short term objectives, in the form of grazing use guidelines that would be implemented under this alternative. Adherence to these guidelines and the prescribed grazing management program would be likely to maintain or make progress toward meeting rangeland health standards and land use plan objectives. Periodic evaluation and interpretation of these guidelines could provide an indication of the potential success of the grazing management program.

A. At the key areas in Pastures 1, 2, 3, 4 and 5 on the Trout Springs allotment and the Hanley FFR allotment shown on the attached Monitoring Location Map, utilization of bluebunch wheatgrass, needlegrass, bottlebrush squirreltail, Idaho Fescue or mountain brome will not exceed 50 percent of the current year's growth as determined by the Qualitative Assessment Landscape Appearance Method or the Key Species Method.

B. A minimum of 4 inches of median stubble height will remain on key hydric herbaceous species such as Nebraska sedge and beaked sedge at the end of the growing season in the riparian area along Middle Fork Owyhee River, Pleasant Valley Creek, Thomas Creek, Little Thomas Creek, West Fork Red Canyon Creek, Smith Creek, Little Smith Creek, Hells Creek and Squaw Creek as measured at key areas shown on the attached Monitoring Location Map.

C. In any given year, in the riparian areas along those stream listed in B above, browsing on woody species, including but not limited to willow, will be limited to an incidence of use not to exceed 25 percent on young woody plants less than three (3) feet in height as measured at key areas shown on the attached Monitoring Location Map.

D. Streambank alteration attributable to livestock grazing (pugging, shearing, trails, trampling) will be less than ten (10) percent as measured at the key areas shown on the attached Monitoring Location Map.

Rangeland Management Projects:

The following projects would be necessary to implement this alternative. See Map 5 for approximate locations of these projects. These projects would require some off road travel for survey, design and construction or removal. No motorized travel would occur within WSAs. Some cutting of western juniper would be required to build new fences. New fences would be built to comply with the Standard BLM 3-wire design.

a. The Breaks Fence: This fence would be the same as described under Alternative 3.

b. Albiston and Middle Fork Spring: These spring developments would be the same as described under Alternative 3.

c. Stauffer Flat Fence: This fence would be similar to that described under alternative 3 but it would be extended to tie into the gathering field to augment gathering cattle out of Pastures 1 and 3. This fence would be constructed to divide Pasture 1 from Pasture 3. This fence would be approximately 5.25 miles long. See Map 5 for general location of this fence. This fence would be a "let down" due to the heavy snows that accumulate in these areas. This fence would be built and maintained by the permittee (Hanley). Materials would be supplied by BLM.

d. Fence removal: This project would also be similar to that described in Alternative 3 but would include removing additional portions of fences. Portions of the Juniper Mountain Management Fences (project number 5382) would be removed. These fences were to form a portion of the existing Pasture 3 boundary. The fences have not functioned as originally designed and now act as little more than drift fences. Approximately 5.25 miles of fence would be removed. BLM would remove these fences.

e. Cottonwood Fence: This fence would be constructed to exclude areas of Cottonwood Creek that are accessible to livestock. The fence would be approximately 1.3 miles long and would exclude approximately ½ mile of stream. See Map 5 for general location of this fence. This fence would be built and maintained by the permittee. BLM would supply the materials.

f. Gather Field Fence: This fence would be realigned to augment gathering of Pastures 1 and 3. It would also exclude the headwaters of Cottonwood Creek from livestock grazing. Approximately 1.7 miles of fence would be built and 1.0 miles would be

removed. The fence would be constructed and maintained by the permittee. BLM would supply the materials.

g. Lane Fence: This fence would be built in the Trout Springs Allotment on two sides of an existing reservoir and would allow access to an additional watering source for cattle authorized to graze in the Pleasant Valley allotment. The cattle in the Pleasant Valley allotment could only use this source when it is not in use by cattle grazing in the Trout Springs Allotment. The reservoir currently lies in a lane between the Pleasant Valley - Trout Springs Allotment boundary and a section of land managed by Idaho Department of Lands. This fence would be approximately 1/3 mile in length. The fence would be built and maintained by the Pleasant Valley allotment permittee. The materials would be supplied by BLM. The fence would be a standard 4-wire BLM fence. See Map 3 for approximate location of this fence.

Interim Management:

Immediate implementation of this alternative would require at a minimum the construction of 11.3 miles of fence. It is the responsibility of the BLM to layout, design and conduct inventories of rare plants, rare animals and cultural resources, and it is the responsibility of the permittee to construct the fences. Requiring the completion of the construction of 11.3 miles of fence before July 15, 2002, would be unreasonable given the other tasks the permittee faces in the operation of his cattle ranch. So, in order to provide for a more reasonable pace for the economic and operational needs of his ranch this alternative would be phased in over the next two years. Fences would be built as quickly as possible. The target date for completion would be the end of the 2002 field season with some work possibly being completed in 2003. Additionally, because this alternative reduces the Hanley Ranch Partnership permitted grazing use on the Trout Springs allotment from 2813 AUMs to 1430 AUMs this aspect of the alternative would be phased in over a two year period as well.

For 2002 the Hanley Ranch Partnership would be permitted to graze on the Trout Springs allotment as shown in the chart below. If unforeseen delays, beyond Hanley Ranch Partnership control result in not completing the fences timely, then interim management would continue through 2003.

Pasture	Livestock No. & Kind		Season of Use Begin	End	% PL	AUMs
1	555	C	6/15	7/31	100	839
3 & 2	555	C	8/1	9/30	100	1113

Hanley Ranch Partnership would be allowed two weeks to move cattle from Pasture 1 to Pastures 2 and 3 (see Map 2 for location of pastures) beginning July 15. All cattle will be removed from Pasture 1 by July 31. All cattle would be removed from Pasture 2 and 3 by September 30.

This alternative is targeted for full operation beginning 2003.

F. Alternative 6 - Modified Deferred Rotation (Map 6)

Permitted Use:

This alternative addresses grazing on Pastures 1, 2 and 3 only. Grazing on Pastures 4, 5 (Fairylawn) and Hanley FFR allotment would be the same as that described under Alternative 3 - Proposed Action and therefore, will not be repeated under this alternative.

Permittee	Allotment	Livestock No. & Kind	Start Date	End Date	% PL	AUMs
Hanley	**Trout Springs**	**550 C**	**6/16**	**8/23**	**100**	**1248**
Hanley	**Trout Springs**	**450 C**	**8/24**	**10/16**	**100**	**799**
					Total	**2047**

Grazing Management:

Under this alternative, the allotment would be grazed beginning June 16 and ending October 16. The pasture configuration would change as noted under the "Rangeland Management Projects" section shown below and as shown on Map 6.

The seasons of grazing use in Pastures A and B would alternate between late summer (8/24 - 9/19) and early fall (9/20 - 10/16).

The periods of grazing use in Pastures C, D & E would be either 6/16-7/8, 7/9-7/31 or 8/1-8/23. These three periods of use would be rotated over a three year period so that the pastures would be grazed every year but at slightly different timeframes each of the three years. Please see chart below for proposed use periods.

Pasture	Use Period	Year
A	8/24-9/19	1
	9/20-10/16	2
B	9/20-10/16	1
	8/24-9/19	2
C	6/16-7/8	1
	7/9-7/31	2
	8/1-8/23	3
D	8/1-8/23	1
	6/16-7/8	2
	7/9-7/31	3
E	7/9-7/31	1
	8/1-8/23	2
	6/16-7/8	3

Permit Terms and Conditions:

Same as those described under Alternative 3.

Short Term Objectives

There would be no short term objectives.

Rangeland Management Projects:

The following projects would be necessary to implement this alternative. See Map 6 for the appropriate locations of the projects. These projects would require some off road travel for survey, design and construction or removal of fences. No motorized travel would occur within WSAs. Some cutting of western juniper would be required to build new fences. New fences would be built to comply with the Standard BLM 3-wire design.

a. The Breaks Fence: This fence would be the same as that described under Alternative 3.

b. Albiston and Middle Fork Spring: These spring developments would be the same as described under Alternative 3.

c. Stauffer Flat Fence: This fence would be the same as described under Alternative 3.

d. Grave Creek Fence: This fence would be similar to that described under Alternative 4, but would tie into the north rim of Cottonwood Creek and would require only 1.0 mile of fence compared with 1.8 miles of fence under Alternative 4.

e. Juniper Mountain Management Fence Extension: This existing fence would be extended approximately 3/10 mile. The proposed location lies within a wilderness study area. The purposes of the fence is to stop movement of cattle between the proposed Pastures D and C. No motorized vehicles or motorized equipment would be used to construct this fence. The fence would be built and maintained by the permittee. The materials would be supplied by BLM.

f. Gather Field Fence: This fence would be the same as described under Alternative 4.

g. Cottonwood Fence: This fence would be the same as described under Alternative 5.

h. North Fork of the Owyhee River Fence: This project would include fencing any access that cattle would have into the North Fork of the Owyhee River. The proposed location lies within a wilderness study area. The allotment boundary would be moved to the top of the South rim. The North Fork of the Owyhee River would no longer serve as the Trout Springs allotment boundary, but the southern rim would. Approximately 2 miles of the North Fork Owyhee River would no longer be within the Trout Springs allotment. Approximately .25 mile of fence would be necessary to close off trails between the rimrock. The permittee would build and maintain this fence. BLM would supply the materials. No motorized equipment would be used to construct or maintain the fences.

G. Other Alternatives Considered

There are a broad array of alternatives that could be analyzed in comparison with the proposed action. Many would not be feasible, would not meet the purpose and need or would be sufficiently similar to the proposed action as to not require a separate analysis. Alternatives to the proposed action that were initially considered and rejected include a deferred rotation grazing system. This alternative would continue grazing as described under the present situation every other year. The present situation permits cattle to graze the lower elevation pasture beginning 6/15 and progressively move up to higher elevations as the season progresses. Under this alternative the grazing sequence would be reversed every other year or cattle would be trailed to the highest elevation pasture and move down

to lower elevation pastures as the season progresses. The overall season of use and the permitted grazing use levels would not change.

This alternative was considered but rejected because this system is incompatible with the riparian, water quality and fisheries objectives in the LUP. Cattle concentrate in riparian areas during the hot summer months of July, August and September, remove the vegetation, and trample the streambanks. There would be no improvement over existing unacceptable riparian, water quality and fisheries conditions.

An alternative that would reduce stocking levels and retain the current season of use was considered but not analyzed in depth for the following reasons: 1) The carrying capacity would be based upon key management areas such as riparian areas. The forage adjacent to streams on the Trout Creek Allotment provide approximately 2 to 3 AUMs per mile of stream. With approximately 50 miles of streams on the allotment the approximate carrying capacity would be 150 AUMs. The current 5 month season of use (6/15 - 11/15) would permit 30 cows. The permitted use would be reduced by nearly 95 percent. 2) The costs associated with maintenance of rangeland projects and grazing administration may outweigh any economic benefit to this grazing scenario and other alternatives would result in less dramatic reductions in permitted use.

An alternative that would retain the permitted number of cattle and current season of use but authorize grazing every 2, 3 or 4 years was considered but not analyzed in depth for the following reasons: 1) Two or more years of rest may be necessary for heavily used willows to recover. 2) Providing less rest and removing cattle before 45 percent use of herbaceous forage in the late season period would better protect willows, reduce trampling impacts and improve water quality compared to this system. 3) Using the allotment every 4^{th} year could be compatible with willow-dominated plant associations, however a 75 percent reduction in permitted use would occur and the costs associated with project maintenance and grazing administration would outweigh any benefit, and, 4) other alternatives would result in less drastic reductions in permitted use.

On January 30, 2002, BLM received an additional grazing management proposal from Dr. Chad Gibson on the Trout Springs allotment. This alternative modified the earlier grazing proposal submitted by him on November 7, 2001 that was analyzed as Alternative 4 in this EA. Additionally, two more alternatives were submitted by Dr. Gibson and received by BLM on February 4, 2002. Each of these additional alternatives are addressed below.

The grazing plan submitted on January 30, 2002 modified an earlier grazing plan analyzed as Alternative 4. The major differences are: (1) cow numbers were reduced from 600 to 520 (2) Mr. Hanley's total permitted use would be reduced from 2704 AUMs to 2378 AUMs and (3) there would be a reduction in the amount of fences proposed within wilderness study areas. Both alternatives relied upon a five pasture deferred rotation grazing program that included grazing every pasture every year but rotated the cattle

through the different pastures at different times within the overall season of use beginning June 16 and ending November 1. This grazing plan was considered slightly more likely to meet the Watershed (1) and Native Plant (4) Standards for Rangeland Health due to the deferred grazing program and reduced stocking rate. It was also less intrusive on wilderness values. However, it was rejected from further analysis due to the same reason Alterative 4 was not chosen as the proposed action, that being, it would not result in significant progress towards meeting the Riparian Area Standard (2), the Stream Channel Standard (3) and the Water Quality Standard (7) for Rangeland Health. The intensity, duration, and season of grazing use would not allow improvement in density, cover, or vigor of riparian vegetation.

The second modified alternative submitted by Dr. Chad Gibson was also similar to Alternative 4. It included a five pasture deferred rotation grazing program. The cow numbers would be 550 and would graze from June 16 to September 10 and then be reduced to 450 cows for the remainder of the season which would end October 15. Total permitted use would be reduced to 2094 AUMs compared to 2704 AUMs for Alternative 4. The plan would limit the season of use from June 16 to October 15.

The third modified alternative submitted by Dr. Gibson differs from the other alternatives in that it would incorporate a 3-pasture rest rotation and a 2-pasture deferred rotation grazing program on five pastures on the Trout Springs allotment. Total permitted use would be reduced to 1971 AUMs and the season of use would be from June 16 to October 15.

Although the latter two alternatives propose significant changes to the operators' grazing program, they would not provide the rest or recovery time necessary for improvement in density, cover, and vigor of riparian vegetation to counterbalance the negative impacts of grazing (every year under one alternative and two years out of three under the other alternative) during the summer when cattle congregate along streams in the Trout Springs allotment. Both plans could, however, allow recovery of upland vegetation in Pasture 2.

III. AFFECTED ENVIRONMENT

A. Upland Vegetation

The uplands in the Trout Springs allotment are mostly dominated by mountain big sagebrush or low sagebrush communities and western juniper is common to dominant. In Pastures 1, 2 and 3, the mountain big sagebrush communities occur intermixed with mountain mahogany communities. They commonly contain needlegrass as the primary understory species, and Idaho fescue is uncommon. The shrub species, including big sagebrush and antelope bitterbrush, exhibit mortality in some areas. The mountain mahogany communities are generally dominated by western juniper and exhibit mortality of the shrub species. The primary understory grass species is needlegrass. The low sagebrush

communities occur throughout pastures 1, 2 and 3 on areas with shallower soils and are the dominant community type in pasture 4. In pastures 1, 2, 3, and Fairylawn, these communities generally contain Idaho fescue and bluebunch wheatgrass in the understory. In pasture 4, the shallow community is dominated by Sandberg's bluegrass and contains bluebunch wheatgrass. Idaho fescue is occasional in the plant community. Mountain brush communities occur at the higher elevations and on north facing slopes of pasture 1. These communities generally contain a variety of shrub species and understory grass species.

Assessments indicate that throughout this allotment, plant community integrity and native species diversity are less than expected with an absence of key perennial decreaser grasses, loss of shrub species and limited perennial forbs. Plant vigor is often low with observed mortality of shrubs and Idaho fescue. In some areas a majority of the site production is western juniper and shrub species.

In the Hanley FFR allotment, the plant communities are potentially dominated by mountain big sagebrush or low sagebrush with an understory of Idaho fescue or bluebunch wheatgrass. Currently, these communities contain a strong canopy of sagebrush and increaser species with limited Idaho fescue and bluebunch wheatgrass. Assessments indicate the community integrity and plant vigor are adequate in the big sagebrush communities, but in the low sagebrush communities interspatial plants demonstrate poor vigor and weak production.

B. Special Status Plant Species

No federally listed threatened or endangered plant species are known to occur on the Trout Springs or Hanley FFR allotments, although the U.S. Fish and Wildlife Service considers all of Idaho to be within the potential range of Ute ladies'-tresses (*Spiranthes diluvialis*), a federally "threatened"orchid species. For this reason, it is included in this discussion. This species is found from 1,500 to 7,000 feet in elevation and is presently known from Colorado, Montana, Nebraska, Utah, Washington, Wyoming, and eastern Idaho along the South Fork of the Snake River between Swan Valley and the confluence with the Henry's Fork. The nearest known Ute ladies'-tresses population is more than 200 miles from the allotment (USFWS 1998). This species occurs in spring, seep, and stream habitats. Riparian inventories in the allotment have resulted in no Ute ladies'-tresses observations. Assessments of the allotments have demonstrated that potential habitat for Ute ladies'-tresses is in poor condition due to current livestock management, though it is unlikely that this species occurs in the Trout Spring allotment.

Two plant species classified as BLM "sensitive" are known to occur in the Trout Springs allotment. None are known from Hanley FFR. At the time of observation, threats or the absence of threats to these occurrences were not recorded, however, both occurrences are accessible to livestock and can be affected by livestock management. Observations are on file with the CDC (Idaho Department of Fish & Game Conservation Data Center) and were

made by BLM staff.

Mud Flat milkvetch (*Astragalus yoder-williamsii*) occurs on fine loamy soils in low sagebrush and mountain big sagebrush communities. In Idaho, this species is restricted to the upper forks of the Owyhee River and is found in one area in Nevada. Though this species is a perennial, it is small and impacts from herbivory are very low to none. Occurrences in Idaho have been adversely impacted by dense concentrations of cattle, specifically when water or salt supplements are placed near the plants; less severe impacts to Idaho occurrences have been reported as trampling and habitat degradation (Mancuso & Moseley 1993). Assessments for the two allotments show that upland plant communities, including mountain big sagebrush and low sagebrush communities, are variously degraded with low plant vigor and species diversity, and have poor soil surface integrity, all of which indicate that habitat for Mud Flat milkvetch is being adversely affected by livestock grazing management. This species is known to occur in Pasture 2 of the Trout Springs allotment.

The second species, dimeresia (*Dimeresia howellii*), is a diminutive annual that occurs in dry, rocky, cindery, or gravelly soils in desert foothills or drier mountains. This species is known from about 10 occurrences in Owyhee County and is also found in Oregon, Nevada, and California. This species occurs in small microsites that often have different soils than the surrounding area. Associated species are sparse to absent. Generally, cattle do not congregate in these areas due to the absence of forage, but they can cause damage by trailing through a population, particularly if water or salt are placed nearby. This species is known to occur in Pasture 5 of the Trout Springs allotment, but due to imprecise location data, it is unknown if the plants occur on private land or BLM-administered land.

C. Wildlife/Special Status Species

The Trout Springs allotment and Hanley FFR contain spring/summer/fall habitat for mule deer, elk and pronghorn antelope. Additionally, Hanley FFR provides winter habitat for low numbers of deer and possibly elk. Both provide habitat for a large diversity of raptors, other nongame birds, mammals, reptiles and amphibians.

One federal candidate species listed as threatened or endangered, the Columbia spotted frog, is known to occur within the Trout Springs allotment along upper Cottonwood and Pleasant Valley Creeks. A number of special status animal species classified as either BLM "Sensitive Species" or State of Idaho "Species of Special Concern", are also known or likely to occur within the Trout Springs and Hanley FFR allotments. These include prairie falcon, northern harrier, ferruginous hawk, sage grouse, calliope hummingbird, rufous hummingbird, dusky flycatcher, gray flycatcher, willow flycatcher, loggerhead shrike, Swainson’s thrush, black-throated gray warbler, yellow warbler, MacGillivray's warbler, Wilson's warbler, yellow-headed blackbird, green-tailed towhee, grasshopper sparrow, sage sparrow, Brewer's sparrow, several bat species, pygmy rabbit, western toad and redband trout.

Assessments and monitoring within the Trout Springs allotment have revealed a general lack of shrubs and decreaser grasses, reduced vigor and production of perennial forbs and a predominance of western juniper throughout much of the allotment that is impacting community structure and species diversity in most plant communities. The widespread encroachment and dominance of western juniper, while providing habitat for a diversity of wildlife and special status species, has also adversely affected habitat for a diversity of other species, especially those associated with the sagebrush steppe such as sage grouse, sage thrashers, Brewer's sparrows, sage sparrows, pygmy rabbits and others by reducing community structure and limiting cover and production of desirable shrub and herbaceous species. Excessive levels of livestock use have contributed to the spread of juniper and further reduced the quantity and quality of herbaceous vegetation which, in turn, limits the quantity and quality of nesting habitat for ground nesting species and may be limiting the production and availability of forbs, seeds and insects that are critical food items for sage grouse, neotropical migratory birds and bats (insects only) and for small mammals that are, in turn, critical prey for most raptors.

Assessments have also revealed that approximately 14 percent or 5.7 miles of the 40.3 miles of stream riparian habitat within this allotment are in proper functioning condition. Monitoring has revealed that most accessible riparian stream reaches and unfenced springs, seeps and wet meadows are heavily to severely grazed and trampled. This has resulted in degraded habitat conditions including reduced cover, structure, forage, insect production and degraded water quality as well as direct physical disturbance and displacement associated with concentrated livestock grazing for most, if not all, dependent wildlife and special status animal species including redband trout, Columbia spotted frogs, sage grouse, neotropical migratory birds, bats and others.

D. Riparian/Aquatic Resources

Portions of the streams listed below flow across public lands administered by BLM within the Trout Springs Allotment. The following table shows the number of stream miles located on BLM lands in the allotment compared with total BLM stream miles and the overall stream mileage. Livestock grazing management on this allotment is an important factor determining riparian/aquatic resource condition on many of these streams.

Miles of Public Streams

Stream	Within Trout Springs Allotment	Outside Trout Springs Allotment	Total Stream Miles
Bear Creek*	0.06	0.06	3.94
Hells Creek & tributaries	3.01	3.01	3.01
Little Smith Creek & tributaries	2.95	4.70	4.70
Middle Fork Owyhee River*	0.71		
Middle Fork Owyhee River	2.60	9.46	9.46
Salt Creek	0.73	0.73	0.73
Smith Creek & tributaries	3.90	7.20	8.95
Squaw Creek # tributaries	10.36	10.36	13.48
Thomas Creek & tributaries	3.46	5.33	6.06
West Fork Red Canyon Cr	2.70	8.21	8.21
Cottonwood Creek*	5.02	13.92	14.09
Grave Creek*	1.16	1.64	2.70
Little Thomas Creek*	0.27		
Little Thomas Creek	1.51	4.56	5.79
Pleasant Valley Creek & tributaries	3.37	7.47	12.30
North Fork Owyhee River	2.22	20.35	23.13
Granite Spring Creek Tributary	0.25	2.09	2.09
Twin Springs Ridge Creek	3.69	3.69	3.69
	47.97	102.78	122.33

*intermittent stream

Hanley FFR Allotment #0453

There is no flowing water on public lands in this allotment.

The named streams with associated stream miles in each pasture are listed in the following table:

Trout Springs Allotment # 0539

Stream Miles in Pasture

Pasture	Stream	BLM	State	Private	Total
1	Bear Creek*	0.06			0.06
	Hells Creek & tribs	3.01			3.01
	L. Smith Creek & tribs	2.95			2.95
	M. Fork Owyhee R.*	0.71			
	M. Fork Owyhee R.	2.60			3.31
	Salt Creek	0.73			0.73
	Smith Creek & tribs	3.90			3.90
	Squaw Creek & tribs	3.73			3.73
	Thomas Creek & tribs	3.46			3.46
	W. F. Red Canyon	2.70			2.70
	Granite Spring Cr. Trib.	0.25			
2	Cottonwood Creek	4.81			4.81
	Grave Creek *	1.16			1.16
	Squaw Creek	3.14			3.14
	N. F. Owyhee River	2.22			2.22
	Twin Sprgs Ridge Ck	1.95			1.95
Gathering Pasture					
	Cottonwood Creek	0.21			0.21
3	Little Thomas Ck. *	0.27			
	Little Thomas Creek	1.51			1.78
	Pleasant Valley Ck.	3.37	0.01		3.38
	Squaw Creek	1.79			1.79
	Twin Spg Ridge Ck	1.74			1.74
4	Squaw Creek	1.70	____	____	1.70
		47.97	0.01	0.00	47.98

* intermittent stream

Squaw Creek forms a portion of the boundaries between pasture 3 and Pole Creek Allotment (0635) and pasture 4 and Pole Creek Allotment. The North Fork Owyhee River forms a portion of the boundary between pasture 2 and the Cliffs Allotment (0501). The West Fork Red Canyon forms a portion of the boundary between Pasture 1 and the Bull Basin Allotment (0540).

Pleasant Valley Creek, Squaw Creek, Hell Creek, Smith Creek, Little Smith Creek, Thomas Creek, Little Thomas Creek, West Fork Red Canyon Creek, Salt Creek, Granite Springs Tributary, Twin Springs Creek, Payne Cabin Creek and Payne Cabin Tributary have been evaluated to determine functioning condition. The Middle Fork Owyhee River and North Fork Owyhee River have also been evaluated. Assessments are based on field examinations conducted in 1996, 1998, 1999 and 2000 and on digital aerial imagery data collected on Smith Creek, Little Smith Creek, Thomas Creek, and Pleasant Valley Creek in 1998 and 1999.

Pasture 1

The source of most streams in the Trout Springs Allotment consists of multiple springs. Pasture 1 has 4 developed springs and one reservoir. Trout Springs in this pasture is contained in a 66 acre exclosure. There is a small exclosure fence at Three Spring that is in poor condition. This pasture also contains one reservoir that has no associated riparian habitat.

The assessments for Squaw Creek (SQC) indicate 3.60 miles are functioning at risk with no apparent trend. These reaches are dominated by early seral or increaser species. Deep rooted decreaser species which are present lack vigor. There is generally insufficient vegetation to adequately protect the streambanks. Width/depth ratio is out of balance. Riparian area is not widening, nor has it reached its potential extent. Flood plain and channel characteristics are inadequate to dissipate energy. Lateral and vertical stream movement is occurring as a result of stream bank damage by livestock.

The assessments for Hells Creek (HLL) indicate 3.05 miles are functioning at risk with no apparent trend. These reaches are dominated by early seral or increaser species. Deep rooted decreaser species which are present lack vigor. There is generally insufficient vegetation to adequately protect the streambanks. Width/depth ratio is out balance with the surrounding landscape. The riparian zone appears to not be widening, nor has it achieved its potential extent. In places the floodplain and channel characteristics are not adequate to dissipate energy. Vertical and lateral movement are occurring.

The assessments for Salt Creek (SAL) indicate 0.73 miles are functioning properly. This stream reach is well protected by deep rooted hydric species that show good vigor. Floodplain above bankfull is inundated in relatively frequent events. Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting. The riparian-

wetland area is widening or has achieved its potential extent. The upland watershed is not contributing to riparian degradation. Floodplain and channel characteristics are adequate to dissipate energy. Lateral stream movement is associated with natural sinuosity.

The assessments for Middle Fork Owyhee River (MFO) indicate 2.60 miles are functioning at risk with no apparent trend. This stream lacks hydric species in the vegetation communities. There is inadequate riparian vegetation cover to protect the banks resulting in bank instability throughout much of the reach. The riparian-wetland is apparently not widening, nor has it reached its potential extent in portions of this pasture. The flood plain and channel characteristics are not adequate to dissipate energy. Lateral stream movement is associated with a lack of hydric species at the streams edge.

The assessments for Smith Creek (SMI) indicate 3.84 miles are functioning at risk with no apparent trend. These reaches are dominated by early seral or increaser species. There is generally insufficient vegetation to adequately protect the streambanks. Point bars remain unvegetated. Width/depth ratio is out of balance with the landscape setting. The riparian zone appears to be contracting. Lateral and vertical stream movement are occurring or have the potential to move due to the presence of inactive Beaver dams.

The assessments for Little Smith Creek (LSM) indicate 2.95 miles are functioning at risk with no apparent trend. These reaches are dominated by early seral or increaser species. Deep rooted decreaser species which are present lack vigor. There is generally insufficient vegetation to adequately protect the streambanks. Width/depth ratio is out of balance with the surrounding landscape in places. The riparian-wetland has not achieved its potential extent. Floodplain and channel characteristics are not adequate to dissipate energy along some portions of the reach.

The assessments for Thomas Creek (THO) indicate 3.46 miles are functioning at risk with no apparent trend. These reaches are dominated by early seral or increaser species. Deep rooted decreaser species which are present lack vigor. There is generally insufficient vegetation to adequately protect the streambanks. Width/depth ratio appears to be out of balance with the landscape setting, and in places may not have reached its potential extent.

The assessments for West Fork Red Canyon (WRC) indicate 2.70 miles are functioning at risk with no apparent trend. These reaches are dominated by early seral or increaser species. Deep rooted decreaser species which are present lack vigor. There is generally insufficient vegetation to adequately protect the streambanks. Point bars are not being revegetated. Width/depth ratio appears to be out of balance with the landscape setting. The riparian-wetland area appears to be contracting in places. In portions of this reach outside the exclosure, lateral movement appears to be associated with livestock use. Within the exclosure, lateral cutting and downcutting are occurring in association with log gabions.

The assessment for Granite Spring Tributary (GRT) indicates approximately 0.25 miles are functioning at risk with no apparent trend. This reach has diverse age distribution and species composition. Species present indicate maintenance of riparian soil moisture. Streambank vegetation is comprised of plants or plant communities that have root masses capable of withstanding high streamflow events. Riparian-wetland plants exhibit high vigor. There is adequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows. Some point bars are not revegetating with riparian-wetland vegetation. The floodplain is inundated at infrequent intervals. Width/depth ratio is out of balance with the landscape setting. Riparian-wetland area has not achieved its potential extent. The watershed is not contributing to riparian degradation. Floodplain and channel characteristics are adequate to dissipate energy. The stream is not laterally stable in some parts of this reach. The stream is vertically stable. There is some excessive erosion/deposition occurring.

Pasture 2

This pasture contains 9 developed springs that have not been fenced or have fences that are in poor repair. It also contains 10 reservoirs, most of which have no associated riparian habitat. Graves Creek has a small amount of riparian habitat downstream from the reservoir. Mid-channel bars are present in portions of these reaches as a result of accelerated lateral stream movement.

The assessments for Squaw Creek (SQC) indicate 3.14 miles are functioning at risk with no apparent trend. These reaches are dominated by woody riparian species. The herbaceous component is primarily early seral in nature with such species as *Bromus tectorum* (cheatgrass) being common. Plant vigor is poor. Many point bars are exposed. Some banks lack sufficient deep rooted vegetation to protect them from erosion.

The assessment for Twin Springs Creek (TWI) indicates 1.74 miles are not functioning properly. This reach lacks diversity of age class and species composition of riparian-wetland vegetation. The riparian zone is dominated by shallow rooted upland species. Plants lack vigor and provide inadequate cover to protect banks and dissipate energy during periods of high flow. The floodplain is inundated at infrequent intervals. Width/depth ratio is out of balance with the landscape setting. Riparian-wetland area has not achieved its potential extent, nor is it widening. The watershed is, in places, contributing to riparian degradation. Floodplain and channel characteristics are adequate to dissipate energy. The stream is not laterally stable in some parts of this reach. The stream is vertically stable. There is some excessive erosion/deposition occurring.

The assessments for North Fork Owyhee River (NFO) indicate 0.3 miles are functioning properly, 0.7 miles are functioning at risk with no apparent trend, and 1.06 miles are non functioning. The properly functioning portion of this reach is well vegetated with bank stabilizing species in sufficient density to protect the stream banks during high flows. The

vegetation exhibits good vigor. That portion of reach that is functioning properly is well armored with rock and shrubs. The upland watershed is not contributing to riparian degradation. The riparian-wetland area has achieved its potential extent. The gravel stream banks prohibit the establishment of graminoids. That portion of stream that is functioning at risk lacks age class diversity. It also lacks sufficient cover to protect it during high flow. Plant vigor is low, and many point bars remain unvegetated. On that portion of stream that is functioning at risk, the riparian-wetland has not reached its potential extent. Also, floodplain and channel characteristics are inadequate to dissipate energy. The non-functioning portion of this reach lacks diversity of age classes of woody species. There is poor plant vigor. Stream banks are insufficiently vegetated with deep rooted hydric species to protect the banks during high flows. Point bars remain unvegetated in many instances.

The non-functioning portion has a high width/depth ratio. The riparian-wetland area is not widening nor has it achieved its potential extent. Hydric species are absent from a portion of this reach.

The assessments for Cottonwood Creek (CTW) in the lower portion of this pasture indicate 2.98 miles are functioning properly. An additional 0.72 miles is functioning at risk with no apparent trend. Those stream reaches that are functioning properly are shrub dominated with diverse age class distribution, and species composition for maintenance. There is sufficient vegetation to protect the banks and dissipate energy during periods of high flow. This is a shrub dominated reach with stable banks. There is no upland watershed contribution to riparian degradation. The stream is laterally and vertically stable. Point bars are revegetating. That reach that is functioning at risk lacks age class diversity of the herbaceous component. Point bars are exposed. The herbaceous component appears to exhibit poor vigor. Width/depth ratio is out of balance with the landscape setting. The riparian-wetland area does not appear to be widening, nor has it reached its potential extent. Functioning condition information is not available for the headwaters of Cottonwood Creek in the gathering field. Photographs taken during field exams in the fall of 2000 indicate that shrubs and herbaceous species have received heavy use with no regrowth occurring. There is also no evidence of recruitment resulting in limited age class and structure within the plant community. Vigor of plants is poor. The Photographs show that significant trampling and streambank damage has occurred. There is also evidence of head cutting and down cutting of the stream channel which has resulted in a reduced riparian area.

Pasture 3

Pasture 3 has one developed spring and no reservoirs.

The assessments for Squaw Creek (SQC) indicate 1.79 miles are functioning at risk with no apparent trend. The herbaceous component lacks diversity and vigor. In many areas there is insufficient riparian-wetland vegetative cover to protect the banks during periods of high flow. Some point bars remain unvegetated. Vertical and lateral instability results from livestock use. Stream banks are completely lacking vegetation in places.

The assessments for Little Thomas Creek (LTH) indicate 1.62 miles are functioning at risk with no apparent trend. The herbaceous component of the riparian community lacks species diversity. Bare banks and unvegetated point bars are common.

The assessments for Pleasant Valley Creek (PVC) indicate 1.45 miles are functioning at risk with no apparent trend. This reach lacks species diversity of the herbaceous component. Riparian-wetland species exhibit poor vigor. The width/depth ratio is out of balance with the landscape setting. Headcuts have developed at springs and down cutting is occurring.
The assessments for Payne Cabin Creek (PAY) indicate 0.9 miles are non functioning. This reach lacks diversity of age class and species composition of riparian-wetland vegetation. The riparian zone is dominated by shallow rooted upland species. Plants lack vigor and provide inadequate cover to protect banks and dissipate energy during periods of high flow. The floodplain is not frequently inundated. Width/depth ratio is out of balance with the landscape. The riparian-wetland is not widening, nor has it reached its potential extent. Floodplain and channel characteristics are not adequate to dissipate energy. Lateral movement is accelerated. The assessments for Payne Cabin Tributary (PAT) indicate 1.02 miles are functioning at risk with no apparent trend. This reach lacks diversity of age class and species composition of riparian-wetland vegetation. The riparian zone is dominated by shallow rooted upland species. Plants lack vigor and provide inadequate cover to protect banks and dissipate energy during periods of high flow. The floodplain is not frequently inundated. Width/depth ratio is out of balance with the landscape. The riparian-wetland is not widening, nor has it reached its potential extent.

The assessment for Twin Spring Creek (TWI) indicates 1.95 miles are functioning at risk with no apparent trend. Some portions of this reach have diverse age distribution and species composition, however it is lacking in others. Species present indicate maintenance of riparian soil moisture in some areas. Streambank vegetation is comprised of plants or plant communities that have root masses capable of withstanding high streamflow events in some areas. Riparian-wetland plants exhibit poor vigor. There is inadequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows. Some point bars are not revegetating with riparian-wetland vegetation. The floodplain is inundated at infrequent intervals. Width/depth ratio is out of balance with the landscape setting. Riparian-wetland area has not achieved its potential extent, nor is it widening. The watershed is, in places, contributing to riparian degradation. Floodplain and channel characteristics are adequate to dissipate energy. The stream is laterally stable and vertically stable. There is some excessive erosion/deposition occurring.

Pasture 4

Pasture 4 has no springs. Three reservoirs are in this pasture, none of which have associated riparian habitat.

The assessments for Squaw Creek (SQC) indicate 1.70 miles are functioning properly. There is diverse age-class distribution and species composition of riparian wetland vegetation. Species present indicate maintenance of riparian soil moisture characteristics. The plant communities have root masses capable of withstanding high stream flow events. Riparian plants exhibit high vigor. There is adequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows. Point bars are revegetating. The floodplain above bankfull is inundated in relatively frequent events. Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting. The riparian-wetland area has probably achieved its potential extent. The floodplain and channel characteristics are adequate to dissipate energy. The stream is laterally and vertically stable. The stream is in balance with the water and sediment being supplied by the watershed.

E. Water Quality

Streams within the Trout Springs Allotment which have designated beneficial uses addressed in IDAPA 16.01.02.140 include the Middle Fork Owyhee River and the North Fork Owyhee River. All streams within the Trout Springs Allotment have general use designations for secondary contact recreation, agricultural water supply, wildlife habitat, and aesthetics. The North Fork Owyhee River and Middle Fork Owyhee River have been assigned the following additional designated uses: Domestic water supply, cold water biota, salmonid spawning, primary contact recreation, and special resource water. At the time the Idaho Department of Environmental Quality prepared the "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load", Pleasant Valley Creek and Squaw Creek were identified as having additional beneficial uses of Cold Water Biota, and Salmonid Spawning. In 1991, 1993, and 1997 redband trout were observed by Idaho Game and Fish personnel in Red Canyon Creek during their population surveys. During the 1997 stream inventory conducted by BLM, redband trout were observed in Thomas, Little Thomas, Smith, and Little Smith Creeks.

It is the responsibility of the State of Idaho, Division of Environmental Quality, to designate those streams within the state which are water quality limited. A list of water quality limited streams (the 303(d) list) and the known problems leading to their inclusion is published by the state, on a regular basis. The Lower Snake River District BLM is currently using the 1998 303(d) list.

The North Fork Owyhee River from the headwaters to the Oregon/Idaho state line, Middle Fork Owyhee River from the headwaters to the Oregon/Idaho state line, Pleasant Valley Creek from the headwaters to the North Fork Owyhee River, and Squaw Creek from the headwaters to the Oregon/Idaho state line are 303(d) State of Idaho water quality limited

streams on the 1998 list which occur within this allotment.
Water quality data analyzed by Idaho Department of Environmental Quality indicates bacteria and thermal modification are the primary pollutants in the North Fork Owyhee River. Flow alteration, sediment and thermal modification are the primary pollutants in Middle Fork Owyhee River, Pleasant Valley Creek and Squaw Creek as addressed in the "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load".

The most probable source of bacteria (fecal coliform) in the North Fork Owyhee River is the concentration of livestock in and along the streams in this portion of the subbasin. Thermal modification is probably the result of a loss of shade producing vegetation such as shrubs and herbaceous grasslike species at the waters edge. Streambank alteration caused by livestock trampling (pugging, shearing, etc.) tends to increase stream width and decrease depth which exposes more water to solar radiation thus increasing water temperature. Sediment sources in this portion of the subbasin are in part due to road crossings, however the major contributor is more likely streambank damage (trampling) as the result of livestock use.

In December of 1999, Idaho Department of Environmental Quality issued the North and Middle Fork Owyhee Draft Subbasin Assessment and Total Maximum Daily Load document. Findings of this document, applicable to Trout Springs Allotment, include: Salmonid spawning is an undesignated existing use in all assessed tributaries to the North Fork Owyhee River; Stream temperature criteria were exceeded for the water bodies within Trout Springs Allotment; Sediment standard criteria were not identified as being exceeded; and the North Fork Owyhee River does not currently exceed bacteria criteria.

Pollutants of concern identified for the Middle Fork Owyhee River include sediment, thermal modification, and flow alteration. They were also identified as pollutants of concern for Pleasant Valley Creek and Squaw Creek.

The "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load" also indicates that cold water biota and salmonid rearing standard attainment would require a 25-58% reduction in thermal energy; and Salmonid spawning standard attainment would require an increase in shade.

Tributaries of Deep Creek, and Red Canyon Creek were not considered in the "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load", however thermograph data indicates that these streams probably do not meet the criteria for Salmonid Spawning and do not appear to meet the criteria for Cold Water Biota.

Fecal Coliform analysis conducted in October 1995 and October 1997 showed >2,400 cfu/100ml and >2,400mpn/100ml respectively in T.11S., R.5W.; Sec.26. Based on this information the secondary contact recreation criteria appears to not be met in the Middle Fork Owyhee River in the Trout Springs Allotment.

F. Soils

The soils in these allotments are diverse mainly due to position on the landscape and sources of parent material. These soils occur on structural benches, foothills, and mountains. They formed in alluvium and residuum from welded rhyolitic tuff that has been influence by volcanic ash in places. The soils are very shallow to deep and well drained. Elevations range from 4,860 feet to 6,600 feet. These soils have a xeric soil moisture regime and a mesic or frigid soil temperature regime. The Hat and Cleavage series are representative of the soils in Pastures 1, 2, and 3. These soils are generally loamy with high amounts of coarse fragments both on the surface and in the profile. The Fairylawn and Acreland series are representative of the soils in Pasture 4. These soils are generally clayey and have stones on the surface. The Paynecreek and Bluecreek series are representative of the soils in the Hanley FFR. Accelerated rates of soil erosion have been documented on Pastures 2, 3, 4 and the Hanley FFR. In these areas the erosional features are a result of both long-term processes and more current activities. Pasture 4 has the greatest amount of current erosional activity mostly associated with mechanical impacts to the soil surface from hoof action. In many areas of these allotments pedastalled interspatial bunchgrass and surface flow patterns are the leading indicators of the ongoing erosional process. Where livestock tend to congregate (riparian areas, water developments, salting areas, or at certain gates) the mechanical damage to the soil surface by hoof action is present.

The hazard of erosion on these soils from water is slight to moderate with the exception of the soils that occur on slopes greater than 30 percent. Soils that occur on slopes of 30 percent or greater have a moderate to high hazard of erosion from water. The hazard of erosion from wind is low.

In Pasture 1, 2, and 3 the invasion of western juniper has had a negative influence on hydrologic cycles and vegetative community composition and diversity. Where invasion is heavy the juniper are highly competitive in terms of available soil moisture, nutrients, and understory photosynthetic needs. This has resulted in reduced shrub frequency, bunchgrass compositional changes and growth form, and possibly stream flows. The occurrence of the juniper invasion in combination with resource consumptive uses has had long-term negative impacts to these systems.

G. Cultural Resources

Cultural resources are recognized as fragile, irreplaceable resources that represent an integral part of our nation's heritage. The Owyhee RMP allows cultural resource protection for potential socio-cultural, public, conservation and scientific uses. The potential of a stratified site to reveal information regarding human adaptation to specific environments and ecosystems is considerable. For example the analysis of soils, pollen and faunal materials found in a site can tell us what climatic changes have taken place over time, what types of game were available for subsistence and what plants were used.

BLM records indicate that cultural resources in the two allotments consist of a variety of site types including lithic scatters and a rockshelter. The area was used for camping, subsistence activities such as food gathering and hunting. Ancestors of the Shoshone and Paiute peoples inhabited this area. The area has also been used for grazing livestock and for recreational purposes.

H. Visual Resource Management (VRM)

Public land within the Trout Springs Allotment is a mix of VRM Class I (553 acres), Class II (970 acres), Class II- Interim Management Policy (IMP) (6,418 acres), Class III (2,649 acres) and Class IV (18,235 acres) lands. Within Hanley FFR there is primarily VRM Class III (55 acres), with some Class II (8 acres) lands. The objective in Class I areas is to preserve the existing character of the landscape, and construction of new rangeland facilities is not permitted. Within VRM Class II areas, the objective is also to retain the existing character of the landscape, and very limited construction of new rangeland facilities may be permitted outside of wilderness study areas. Within VRM Class II-IMP areas, at the time of this assessment these areas are treated the same as in VRM Class II areas. In Class III areas, changes to the characteristic landscape should be moderate, and in Class IV landscapes the level of change can be high. Within the Trout Springs Allotment, the natural character of some landscapes within VRM Class I, II, and II-IMP areas has been degraded by heavy livestock grazing. As noted in the Trout Springs Assessment, livestock grazing impacts including bare ground, streambank alteration, and inadequate diversity and structure of plant communities.

I. Recreation

Sections of the Trout Springs Allotment are located within the North Fork Owyhee Backcountry Special Recreation Management Area (SRMA) (1,232 acres) and the North Fork Canyon SRMA (51 acres). The main recreational activities within the North Fork Owyhee Backcountry SRMA, which totals 56,801 acres, are backpacking, horseback riding, camping, hunting, fishing, sight-seeing, and nature study. Trout Springs, located on Juniper Mountain, is a popular base camp used by campers and hunters. The main recreational activities within the North Fork Canyon SRMA, which totals 475 acres, include camping, whitewater boating, hunting, fishing, sightseeing, and nature study. There were an estimated 1,400 recreational visits to the North Fork Backcountry SRMA in Fiscal Year 2001. Most of the recreational use of the North Fork Canyon SRMA occurs outside of the Trout Springs Allotment. Concentrations of livestock in some riparian and upland areas have caused deteriorated natural settings, which detract from recreation experiences of visitors. Examples of deteriorated settings include areas on the tablelands south of the North Fork of the Owyhee River, and areas along Cottonwood Creek, Squaw Creek, Twin Springs Creek, Payne Cabin Creek, and the headwaters of the Middle Fork Owyhee River.

The North Fork of the Owyhee River in Idaho was determined to be suitable for inclusion in the Wild and Scenic River System, in the Owyhee Resource Management Plan (1999). Approximately 2 miles of the suitable river, classified as "wild", are located within the Trout Springs allotment. The designation is recommended due to the outstandingly remarkable scenic, recreational, geological, and wildlife values present. Downstream from the allotment, all of the North Fork of the Owyhee River within Oregon (9 miles) was designated by Congress as a component of the Wild and Scenic River System in 1988.

Off-highway motor vehicle (OHV) designations in the Trout Springs Allotment include 13,417 acres where travel is limited to existing roads and trails, 14,124 acres limited to designated roads and trails, and 1,283 acres closed to motorized access. Within the Hanley FFR, motorized travel is primarily limited to existing roads and trails (60 acres). OHV regulations apply to permitted uses as well as to general public use.

The Owyhee Uplands National Back Country Byway traverses approximately 4 miles within both allotments. The Byway is a 101-mile improved gravel road between Grandview, Idaho and Jordan Valley, Oregon, and serves as a scenic drive and staging point for trips into the scenic and primitive back-country areas of Owyhee County. An estimated 10,000 visitors traveled the Byway in fiscal year 2001.

J. Wilderness

Portions of two wilderness study areas are included within the boundaries of the Trout Springs Allotment. This includes 1,067 acres of the 41,025 acre North Fork Owyhee Wilderness Study Area (WSA), and 6,301 acres of the 10,780 acre Squaw Creek Canyon WSA.

WSAs are managed in such a manner so as to not impair their suitability for preservation as wilderness. Wilderness values to be protected include solitude, naturalness, opportunities for primitive and unconfined recreation, and the presence of special features that enhance wilderness values. Special features recognized for the North Fork include exceptional scenic quality, because of its spectacular sheer-walled canyons and rock outcrops highlighted with gnarled juniper. Sensitive wildlife species were also included as special features in the North Fork WSA recommendation. Squaw Creek Canyon's wilderness characteristics include naturalness, solitude, and opportunities for primitive and unconfined recreation, with no special features noted.

Livestock grazing in WSAs is considered a "grandfathered" use that may continue in the same manner and degree in which it was being conducted on October 21, 1976, if it does not cause unnecessary or undue degradation of the lands and their resources. There are currently several fences, three spring developments, and two reservoirs within the wilderness study area portions of the Trout Springs allotment.

Monitoring reports depict heavy livestock grazing, trampled streambanks, impaired stream functionality, and reduced vegetation in areas within the wilderness study areas. This has a negative effect on the wilderness values of naturalness and scenic quality, and also has a negative effect on recreationists' experiences of wilderness.

K. Social/Economic

The BLM does not have access to financial or business records for the permittees that graze livestock in the Trout Springs and Hanley FFR Allotments, therefore it is impossible to provide a detailed discussion of individual ranch operations, including economic and social conditions.

In addition to use in the Trout Springs and Hanley FFR allotments, the Hanley Ranch has interest in the company with the grazing permit in the Nickel Creek allotment (72,000 total acres). Ted Payne has interest in the company with the grazing permit for the Pleasant Valley allotment (12,370 total acres) and Bull Basin allotment (50,269 total acres). Both permittees also have permits or interest in permits administered by the BLM in Vale, Oregon.

As part of the July 1999 Final Environmental Impact Statement (EIS) for the Owyhee Resource Management Plan, "typical" ranch operations were developed utilizing producer panels in Owyhee County (see pages III-61 to III-68). The permittees in the affected allotments do not appear to fit exactly into the description of any of the models, but the Jordan Valley Model Ranch seems most appropriate, though it was developed for smaller operations, and the seasons of use vary somewhat. This model ranch is a cow/calf operation centered in southwest Idaho. Calves are born in February and March, run with the cows on rangeland through the fall and are marketed in November. This is a family operation that is supplemented by seasonal hired labor during the irrigation season. Cattle are turned out on rangeland in April and graze a mixture of BLM and state rangeland until fall, when they are moved back to private lands. Winter feeding starts in December and runs through calving and turnout back onto public rangelands. About half of the total AUMs for livestock come from federal and state rangeland resources and the other half come from private rangeland, crop aftermath, and various feeding operations.

For the purpose of this document, there are two general ways ranches may be directly impacted by the decisions and policies of federal and state agencies. First, there may be changes in the total number of AUMs of grazing authorized on public or state lands. A second way is when there is a change in the seasonal availability of forage use authorized on public lands.

For a detailed discussion of the economic and social conditions in Owyhee county and the region influenced by public lands in the area, see the July, 1999 EIS (pages III-60 to III-73).

IV. ENVIRONMENTAL CONSEQUENCES

A. Alternative 1 - No Grazing (Map 1)

1. Upland Vegetation

This alternative would be expected to have positive impacts to the upland vegetation in Trout Springs allotment and in Hanley FFR allotment. The absence of any livestock grazing each year would allow the plants to complete their growth cycles without significant grazing impacts. This would result in improved health and vigor of these plants and should allow significant progress to be made toward meeting the Standard for Rangeland Health in these allotments.

2. Special Status Plant Species

This alternative would have a positive impact on special status plants that may occur in both allotments. The elimination of grazing would result in improved health and vigor of the species that have been documented and their associated habitats. The risk of adverse impacts would be eliminated.

3. Wildlife/Special Status Animals

This alternative would have a positive impact on most wildlife and special status animal species. The lack of livestock grazing would result in increased forage and cover and eliminate trampling and other physical disturbance associated with livestock grazing. This would be especially true within and adjacent to riparian areas where livestock use is generally most concentrated.

4. Riparian/Aquatic Resources

This alternative would have positive impacts on riparian and aquatic resources on those stream reaches accessible to livestock in Trout Springs allotment. The lack of livestock grazing would result in improved herbaceous and woody riparian vegetation composition, vigor, cover, structure, density, and root mass. These improved vegetative conditions would result in improved buffering of erosive forces and filtering of sediment and increased shade. Streambank stability would improve, water infiltration and bank storage would increase, water quality would improve, and riparian and wildlife habitat would improve. This alternative would allow progress toward meeting Standards 2 (Riparian Areas and Wetlands) and 3 (Stream Channel/Floodplain) for Rangeland Health.

5. Water Quality

This alternative would have positive impacts on water quality in Trout Springs allotment, where streams are accessible to livestock. The lack of livestock grazing would result in no bank trampling by livestock which would result in less sediment deposition in the streams. There would also be a reduction in fecal contamination of the waters. Improved vegetative conditions would improve filtering of sediment which would result in streambank development and a narrowing and deepening of the streams, which in conjunction with improved stream cover (shade) would reduce water temperature.

6. Soils

Overall impacts to the soil resource (being closely tied to the vegetative health of the community and soil surface stability) would be positive and watersheds health would be improved. This would allow for moving toward significant progress in meeting Standards for Rangeland Health in these allotments.

Under this alternative the phenological needs of the key perennial species in all pastures would be met. By not grazing the existing perennial grass species, these plants would have an opportunity for improvements in vigor and production, and subsequently reproduction and establishment. These increases in perennial grass species and the subsequent increases in canopy cover, surface litter, above ground structural material, and fibrous root matter would aid in protecting the soil from the forces of both wind and water erosion. Site productivity would be increased. Mechanical damage to the soil surface from livestock hoof action would not continue.

Watershed-impairing effects due to western juniper invasion would continue. By allowing the key forage species to meet their phenological growth needs these plants can better compete with the juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with juniper invasion.

7. Cultural Resources

Any direct impacts of grazing on cultural resources by livestock including trampling or breakage of artifacts would be avoided under this alternative. This alternative would also result in improvement in vegetative cover and density which would provide a stabilizing effect and contribute to preservation of cultural resources.

8. Visual Resource Management

This alternative would have a positive impact on visual resources. Improvements in vegetative condition and diversity, improvements in streambank structure and stability, and the elimination of trampling and other evidence of livestock use would enhance scenic

quality. This would result in more primitive and natural landscapes.

9. Recreation

This alternative would have a positive impact on recreation. Improvements in scenic quality, discussed above, would have a positive effect on recreationists' experiences. Improvements in stream function and water quality would eventually lead to improved opportunities for fishing. Improvements in wildlife habitat would lead to increased opportunities for consumptive and non-consumptive wildlife-related recreation. Reduction of livestock-related impacts would make previously undesirable areas attractive to recreationists for camping. Improvements in scenic quality, recreational opportunities, and wildlife habitat would also enhance the wild and scenic river values of the North Fork of the Owyhee River.

10. Wilderness

This alternative would have a positive impact on wilderness. Without substantial grazing, the wilderness study areas would return to more primitive and natural conditions. Scenic quality, which is one of the special features of the North Fork Owyhee WSA, would improve as vegetative cover and diversity increases, streambank stability improves, and livestock trampling is eliminated. Habitat conditions for redband trout, another special feature of the North Fork Owyhee WSA, would improve as livestock-related impacts to the river and riparian habitat are reduced.

11. Social/Economic

If no grazing use was permitted in the Trout Springs and Hanley FFR allotments, there would likely be a negative economic impact to the ranch community as a whole and the two permittees that previously grazed livestock in the allotments. However, because the BLM does not have extensive knowledge of the permittees other ranching interests, alternative grazing options or access to the permittees financial and business records, it is impossible to quantify the effect. There could be potential for some of the displaced grazing use to be absorbed into the other operations where the permittees have interest. The permittees could also be forced to find alternative rangelands to graze their livestock, feed them hay or sell them.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-244 to IV-245)

B. Alternative 2 - Present Situation (Map 2)

1. Upland Vegetation

Under this alternative, pastures 1, 2 and 3 of Trout Springs allotment would continue to be grazed from mid-June to mid-November each year, and pasture 4 would be grazed from April to mid-June each year. Impacts which are currently occurring would continue. Grazing pasture 2 of this allotment throughout the majority of the growing season would result in a lack of vegetation to protect the soil surface and limit the availability of litter to provide for nutrient cycling. It would also result in continued reduced vigor of decreaser species. Grazing in pastures 1 and 3 from early summer through fall would continue to result in impacts to plant vigor and plant production and reduced litter availability. With grazing beginning in early summer, the primary forage species would likely be actively growing, and it is likely that opportunities for regrowth would not occur. Additionally, heavy grazing would limit the availability of litter to protect the soils surface and provide for nutrient cycling. Grazing pasture 4 during the spring each year would continue to result in impacts to plant production and litter availability. Opportunities for regrowth subsequent to the grazing period would be limited by time and moisture availability. The pastures of this allotment would continue to not meet the standards nor would progress toward meeting the standards occur.

Under this alternative, the Hanley FFR allotment would continue to be grazed season-long each year. Impacts which are currently occurring would continue and this allotment would continue to not meet the standards for rangeland health nor would progress toward meeting the standards occur.

2. Special Status Plant Species

Impacts that may be occurring to special status plant species and their habitats will continue to occur. Low sagebrush and mountain big sagebrush communities, which are habitat for Mud Flat milkvetch, would remain in degraded condition. Riparian habitats would continue to be adversely impacted by cattle.

3. Wildlife/Special Status Animals

Under this alternative, pastures 1 and 3 of the Trout Springs allotment would continue to be grazed from 7/31 through 11/15 every year. In addition, livestock are frequently observed in these pastures in June resulting in some use during the active growing season. This level and timing of grazing would result in continued heavy to severe use of stream, spring and wet meadow riparian habitats primarily during the hot season and into the fall and allow no opportunity for regrowth of streambank vegetation prior to the following spring runoff. This would result in the continued degradation of streambanks and riparian vegetation and maintain or worsen habitat conditions for the large diversity of wildlife and special status

animals dependant upon these habitats as described under III C (Affected Environment - Wildlife). Unauthorized use during the active growing season would add to the level of riparian habitat disturbance and deterioration by removing cover and forage and directly disturbing habitats and populations during the breeding and nesting season. Under current levels of livestock use, upland habitat would also continue to be maintained in less-than desirable condition and would be likely to support fewer species and reduced numbers of special status and other wildlife. This is especially true of pasture 4 and, to a lesser degree, pasture 2 which would be grazed every year during the active growing season resulting in reduced desirable grass and forb vigor, cover, production and availability and reducing the quality of nesting and brood-rearing habitat for sage grouse and a diversity of other species. The height and cover of herbaceous vegetation and forb production and availability are all important components of sage grouse nesting and brood-rearing habitat. Upland habitats in the Hanley FFR allotment are currently providing mostly suitable habitat for most wildlife and special status species and this would be expected to continue under current management.

4. Riparian/Aquatic Resources

Impacts to riparian communities and aquatic resources occurring under current management would continue with this alternative.

Pastures 1 and 3 would continue to be grazed during the summer and fall each year. Pasture 2 would be grazed in the late spring and early summer each year. This grazing schedule has resulted in no apparent upward trend in the condition of riparian and aquatic resources in areas accessible to livestock. Heavy livestock use of riparian vegetation during the hot season has resulted in: a reduction in hydric shrub and deep rooted herbaceous species diversity, density, age class, and vigor; and streambank trampling. These factors contribute to: bank instability; over-widening of stream channels; loss of stream sinuosity (or in some instances excessive sinuosity and stream braiding); lack of floodplain development; loss of existing floodplain due to downcutting and de-watering; increased sediment; and loss or reduction of fish and aquatic insect habitat.

Those reaches with limited or no access to livestock typically are very stable with good species diversity, density, age class diversity, and vigor, as is the case with Squaw Creek in pasture 4.

To date the current management has not made significant progress toward meeting Standard 2 (Riparian Areas And Wetlands) or Standard 3 (Stream Channel/Floodplain) and, in many cases there is degradation, therefore, it is expected that the current trend would continue.

5. Water Quality

Impacts to water quality occurring under current management would continue with this alternative in the Trout Springs Allotment.

Water quality data analyzed by Idaho Department of Environmental Quality indicates bacteria and thermal modification are the primary pollutants in the North Fork Owyhee River. Flow alteration, sediment and thermal modification are the primary pollutants in Middle Fork Owyhee River, Pleasant Valley Creek and Squaw Creek as addressed in the "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load".

The most probable source of bacteria (fecal coliform) in the North Fork Owyhee River is the concentration of livestock in and along the streams in this portion of the subbasin. Thermal modification is probably the result of a loss of shade producing vegetation such as shrubs and herbaceous grasslike species at the waters edge. Streambank alteration caused by livestock trampling (pugging, shearing, etc.) results in wider and shallower stream channels, exposing more water to solar radiation thus increasing water temperature. Sediment sources in this portion of the subbasin are in part due to road crossings, however the major contributor is more likely streambank damage (trampling) as the result of livestock use.

In December of 1999, Idaho Department of Environmental Quality issued the "North and Middle Fork Owyhee Draft Subbasin Assessment and Total Maximum Daily Load" document. Findings of this document, applicable to Trout Springs Allotment, include: Salmonid spawning is an undesignated existing use in all assessed tributaries to the North Fork Owyhee River; Stream temperature criteria were exceeded for the water bodies within Trout Springs Allotment; Sediment standard criteria were not identified as being exceeded; and the North Fork Owyhee River does not currently exceed bacteria criteria.

Pollutants of concern identified for the Middle Fork Owyhee River include sediment, thermal modification, and flow alteration. They were also identified as pollutants of concern for Pleasant Valley Creek and Squaw Creek.

The "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load" also indicates that cold water biota and salmonid rearing standard attainment would require a 25-58% reduction in thermal energy; and Salmonid spawning standard attainment would require an increase in shade.

Tributaries of Deep Creek, and Red Canyon Creek were not considered in the "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load", however thermograph data indicates that these streams probably do not meet the criteria for Salmonid Spawning and do not appear to meet the criteria for Cold Water Biota.

Fecal Coliform analysis conducted in October 1995 and October 1997 showed >2,400 cfu/100ml and >2,400mpn/100ml respectively in T.11S., R.5W.; Sec.26. Based on this information the secondary contact recreation criteria appears to not be met in the Middle Fork Owyhee River in the Trout Springs Allotment.

Compliance with the 1999 TMDL would not occur and Standard 7 (Water Quality) for Rangeland Health would not be met in the foreseeable future.

6. Soils

Over all impacts to the watershed/soil resource (being closely tied to the vegetative community and soil surface stability) would continue and watershed health would continue to be impaired. The watersheds in these allotments would not make progress towards meeting the Standard for Rangeland Health. In portions of all these allotments, where livestock use is limited and juniper invasion minimal, these standards are being better met.

Under the existing management system the on-going erosional processes and watershed concerns would continue. The phenological needs of the key perennial species in Pasture 2, 4 and the Hanley FFR allotment would continue to not be met while those in Pastures 1 and 3 would be marginally met. This would not allow for sufficient regrowth and its associated soil protecting vegetative canopy and litter cover. Soil productivity could be reduced under a system that does not allow for proper nutrient cycling. Mechanical impacts to the soil surface from livestock hoof action would continue to degrade the system by reducing infiltration and increasing run off. This would be more of a concern in Pasture 4 where soil disturbance is already heavy. Many of the erosional features that have been documented in these allotments (pedastalling is an example) have developed over many tens of years and under older grazing management systems. The current systems do not appear to be making progress towards healing these processes.

Watershed impairing affects due to western juniper invasion combined with the current grazing systems utilization of the key forage species during their critical phenological periods would continue to have long lasting negative impacts on the plant community in general.

7. Cultural Resources

The present situation (No Action Alternative) would continue to have the potential to adversely affect cultural resources, especially in riparian zones and spring areas where cattle tend to concentrate and trample the ground, resulting in loss of integrity of cultural resource sites. Additionally, a long grazing season in the uplands has a greater potential for damage to fragile sites.

Direct impacts from grazing include surface disturbance and soil compaction with

subsequent damage to, and repositioning of artifacts through trampling. The degree and rate of site destruction in relation to the duration of trampling or number of livestock involved is unknown. In addition to artifact breakage, this results in alteration of contextual information resulting in loss of integrity and scientific information.

Indirect impacts of grazing include the removal of vegetative cover, which facilitates erosion and subsequent damage to or complete eradication of cultural sites. In the case of a highly stratified site, this could potentially mean the loss of thousands of years' accumulation of cultural material.

8. Visual Resource Management

Renewal of the present grazing system would continue the impacts to scenic quality that are currently occurring in areas of heavy livestock utilization.

9. Recreation

With this alternative, impacts to recreation that are currently occurring due to livestock grazing and described in the affected environment section, would continue to occur. Recreational use levels would likely continue to incrementally increase, which is the trend throughout the area.

10. Wilderness

In the Trout Springs allotment, the wilderness value of naturalness would continue to be negatively affected in areas of the North Fork Owyhee WSA and Squaw Creek WSA which receive heavy livestock utilization. The outstanding scenic quality of the North Fork Owyhee WSA would continue to be negatively affected in areas of heavy livestock utilization.

There are no wilderness study areas in Hanley FFR allotment.

11. Social/Economic

There would not be any direct cost to the permittees or the BLM under this alternative. However, as resource conditions continued to degrade under current management, the long term productivity of the rangelands would probably continue to diminish. The permittees would have to weigh changing their grazing use of the public lands in the allotments (reduced numbers, grazing systems, changes in season of use, etc) against the risk of poor animal performance normally associated with livestock grazing on depleted rangelands (low weaning weights, low pregnancy rates, susceptibility to disease and poisonous plants, etc.)

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-69 to IV-70).

C. Alternative 3 - Split Grazing Season (Map 3)

1. Upland Vegetation

Under this alternative, livestock grazing use of Pastures 2 and 3 would occur in early summer two years out of four, with rest the other two years. When grazing occurs, it would occur during the growing season with a reduced stocking rate. The shortened season of use and reduced stocking rate combined with two full years of rest should result in opportunities for the primary forage species to complete their growth cycles and meet their phenological requirements. Over the long term, this should result in improvements in vigor and production of the key forage species and result in greater availability of litter for site protection and nutrient cycling. Grazing use in Pasture 1 would occur in the fall each year. This would be after all of the key forage species have completed their growth cycles and should allow these plants to meet their phenological requirements each year. Grazing use in Pasture 4 and Fairylawn would occur after the growing season each year. In all pastures of this allotment, the reduced stocking rate and the changes in grazing season and length of use should result in improvements in vigor and production of key species and for progress toward meeting the standards to occur in those areas of the allotment where it is not currently meeting the standards. Some minor local negative impacts to the vegetation would occur as a result of spring and fence construction and fence removal.

Under this alternative, the Hanley FFR allotment would be grazed at the discretion of the permittee, and utilization would be limited to 50%. If grazing use occurred during June or the primary growth period of the key forage species, it could continue to result in poor plant vigor. However, the 50% utilization limit should help alleviate the impacts. If grazing use occurred after the critical growing season for key forage species, it should allow for key perennial grass species to complete their phenological requirements and result in improvements in vigor and production. This should allow progress toward meeting the standards for rangeland health to occur.

2. Special Status Plant Species

Overall, vegetation communities in the Trout Springs allotment would be expected to recover under this alternative. Management that would facilitate improvement in low sagebrush and mountain big sagebrush communities would improve habitat conditions for Mud Flat milkvetch. Trampling impacts in Pasture 2, if any, would be reduced under this alternative due to incorporation of a rest period and with reduction in use. This would also be true for impacts, if any, to dimeresia in Pasture 5. Severe, direct impacts to special status plants could be avoided by placing supplements and water away from any known occurrence, including any populations that may be found in either allotment in the future.

Range improvement projects (two spring developments and 6 miles of fencing) planned under this alternative would have no impact on any known occurrences of special status plants. Site-specific surveys would be conducted prior to construction to determine the presence or absence of these plants and to eliminate or minimize adverse impacts if necessary. Riparian habitats would be expected to improve in all pastures under this alternative, which would improve any potential habitat for Ute ladies'-tresses, though it is unlikely that this species occurs here.

3. Wildlife/Special Status Animals

Both upland and riparian habitats should improve under this alternative. The reduction in stocking rate and the lack of early spring use would result in rapid improvement of desirable plant species vigor and production and a gradual increase in ground cover and structure, all of which should enhance habitat for most wildlife by increasing nesting and hiding cover and increasing forage, seed and insect production. This should include good carryover of residual grass growth from fall to spring and undisturbed herbaceous production and cover providing quality habitat for nesting sage grouse and other ground nesting species for the majority of the season. It would also avoid any physical disturbance of populations or habitats during the majority of the breeding and nesting seasons. By not authorizing early spring or hot season grazing in pastures containing stream riparian habitats and by providing two years of back-to-back rest in pastures 2 and 3, riparian habitats should also rapidly improve for the large diversity of dependant special status and other wildlife. Fall use of pasture 1 should also result in steady improvement of riparian and upland habitats but will need to be closely monitored to assure that herbaceous riparian stubble height and woody utilization objectives are not being exceeded. The construction of 6.0 miles of additional pasture fence would result in some minor, short term impediments to big game movements and disturbance during construction and some minor, long term increases in wildlife mortality from collisions and entanglement. These same fences should, however, facilitate the implementation of proposed grazing system which would be expected to result in rapid and long term improvement in habitat conditions for most wildlife and special status species. The proposed removal of 3.25 miles of fence should offset some of the adverse impacts associated with the new fence construction by removing barriers to movement and reducing any death losses that might have occurred if they had been left in place. The development of Albiston and Middle Fork Springs would result in some minimal loss of water from these systems which could result in adverse impacts to dependent riparian vegetation, wildlife and special status species. However, overflow from the troughs would be directed back into the drainage, which should limit the loss of water from the system. Although not yet documented at this spring, Columbia spotted frogs are known to occur along Cottonwood Creek within a half mile downstream of Albiston Spring and development would likely adversely affect its suitability as an overwinter hibernacula for this federal Candidate species. Both springs and associated riparian habitat would be fenced to exclude livestock and should result in a significant improvement in riparian habitat for most species, possibly including non-wintering habitat for spotted frogs.

4. Riparian/Aquatic Resources

This alternative should have positive impacts on riparian and aquatic resources in Trout Springs Allotment.

The proposed stocking rate reduction coupled with 2 years of early grazing (June 15 to July 15) followed by two full years of rest in pastures 2 and 3 should allow for rapid recovery of riparian/aquatic habitat in these pastures. The availability of palatable herbaceous plants in the uplands during the authorized period of use could induce livestock to spend more time out of the riparian zone, thus reducing the use of herbaceous riparian plants as well as reducing the amount of soil compaction and bank trampling. Additionally, livestock use of woody riparian plant species would be expected to be greatly reduced, thereby providing for maximum growth during the critical growth period and also improving the survival of young plants.

The development of Albiston Spring in the southern portion of pasture 2 should help disperse livestock, thus reducing impacts on streams. However, this could result in the loss of water in an upper reach of Cottonwood Creek.

There would be little or no regrowth of those plants which are grazed or browsed each season, so herbaceous riparian stubble height, woody utilization and streambank alteration should be closely monitored to assure the objectives are not being exceeded (see Appendix 1 for monitoring plan).

The realignment of pasture boundaries through construction of 6.0 miles of new fence and the removal of 3.25 miles of ineffective fence should help to control livestock thus reducing impacts to riparian areas.

It is expected that livestock would not congregate in the riparian zones in pasture 1 during the period October 1 to December 15 due to climatic factors and upland conditions resulting in improved riparian condition in the long term. However, late season grazing, on an annual basis, is not compatible with the production of willows which, in part, is required to attain desired levels of stream shading (Erhart and Hansen,1998). Additionally, during unusually warm and dry fall months, livestock may make more extensive use of riparian areas. Therefore, riparian stubble height and woody browse utilization should be closely monitored to assure that objectives for herbaceous and woody riparian plants are being met.

Squaw Creek is largely inaccessible to livestock in pasture 4. However, there is a water gap that is accessible, and it is expected that there would be deterioration of riparian/aquatic condition within the water gap since livestock would be in this pasture during the hot season (July 1 to October 15), and they tend to seek out riparian zones during this time. It

is expected that this alternative would have minimal effect on that portion of Squaw Creek that is located outside the water gap.

Improved vegetative conditions would result in improved buffering of erosive forces and filtering of sediment allowing for bank stabilization and aggradation, and improved shade. Streambank stability should improve, water infiltration and bank storage should increase, and water quality, and fishery habitat should improve. This alternative would be expected to meet or make significant progress toward meeting Standard 2 (Riparian Areas and Wetlands) and Standard 3 (Stream Channel/Floodplain) for Rangeland Health in the Trout Springs Allotment.

This alternative would have no impact on riparian or aquatic resources on public lands in the Hanley FFR Allotment.

5. Water Quality

This alternative would be expected to have positive long term impacts on water quality.

In the Trout Springs Allotment, under this alternative there would be a significant reduction in the amount of streambank trampling by livestock, due to the elimination of most hot-season grazing use, and providing periods of rest from livestock use. This would result in less sediment deposition in the streams, and a reduction in fecal contamination of streams. Improved riparian vegetation conditions would increase filtering of sediment, which would result in streambank development and the narrowing and deepening of stream channels. This in conjunction with increased stream cover (shade) would reduce water temperature, thereby complying with or approaching compliance with the 1999 "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load" document and Standard 7 (Water Quality) for Rangeland Health.

6. Soils

Overall impacts to the watershed/soil resource (being closely tied to the vegetative community and soil surface stability) would be positive and watersheds health would be improved. This would allow for making significant progress in meeting the Standards for Rangeland Health in these allotments. In portions of all these allotments, where livestock use is limited and juniper invasion minimal, these standards are being better met.

Under this alternative change in season of use and reduced livestock numbers would be incorporated into the grazing system. Pastures 2 and 3 would be grazed in early summer two out of four years and rested the other two. A reduction in stocking rates would also occur. This would reflect positively on the watersheds ability to function properly by increasing the plant community component values (plant composition, density, structure,

cover, and litter). Pastures 1 and 4 would be grazed after the key forage species have met their phenological requirements and are dormant. Livestock numbers would also be reduced. This would benefit the watershed aspects of these pastures in terms of the plant community component similar to Pastures 2 and 3.

Late season use in Pasture 4, after the soils have dried out, would reflect very positively on the soils in terms of lessening the mechanical impacts to the soil by livestock hoof activity.

Watershed impairing affects due to western juniper invasion would continue. By allowing the key forage species to meet their phenological growth needs these plants can better compete with the juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with juniper invasion.

The Hanley FFR would be grazed at the discretion of the permittee with utilization limited to 50%. Without knowledge of the system the permittee would utilize the impacts to the watershed resource can not be fully addressed. If the 50% utilization limit is adhered to then the affects would be positive in general.

Water developments could affect the soil resource by herbivore trampling (which results in soil compaction and/or structural breakdown) and herbivore stripping of vegetative cover. These impacts would be confined to the immediate area around the development and dissipate radially out from the development. Where these types of developments improve the distribution of livestock and prevent negative impacts to the riparian corridors by keeping livestock on the upland areas there could be an overall benefit. Actions associated with fence construction/moving/removal would have minimal impacts on the soil resource. Again, where these range improvement actions aid in the distribution and management of livestock a positive impact could occur on the watershed.

7. Cultural Resources

This alternative has potential to improve range conditions and preserve the integrity of cultural resources. Other impacts are as described under Alternative 2. Additional impacts of the range improvement projects would be addressed on a project-by-project basis for compliance with Section 106 of the National Historic Preservation Act.

8. Visual Resource Management

This alternative would have a positive impact on visual resources over the long term, in the Trout Springs Allotment. Anticipated improvements in vegetative cover, both in riparian areas and in the uplands, would enhance scenic quality and result in more primitive and natural landscapes. The proposed fences and spring developments would be constructed in Class IV VRM areas where that type of construction is acceptable.

In Hanley FFR, there would be no significant change to visual resources.

9. Recreation

There would be some positive impact on recreation overall, under this alternative in the Trout Springs allotment. Improvements in scenic quality due to improved vegetative condition would positively affect scenic quality, which would also positively affect recreationists' experiences. This improvement would be somewhat cyclic, as vegetative conditions observable to recreationists would vary dramatically depending on the time of visitation relative to when the area had been grazed. A reduction in livestock stocking levels and duration of use would reduce livestock impacts and make areas desirable for recreation, including both riparian areas and uplands, more attractive to recreationists. Improved habitat conditions for wildlife would lead to improved opportunities for wildlife viewing, hunting, fishing, and nature study. Areas where livestock congregate would continue to negatively affect recreationists' experiences, both during and after the grazing season. The new fences would be an impediment to cross-country travel for recreationists on foot and on horseback, however that would be partially offset by fence removal. Improvements in scenic quality, recreational opportunities, and wildlife habitat would slightly enhance wild and scenic river values of the North Fork of the Owyhee River.

There would be no change to recreation in Hanley FFR allotment under this alternative.

10. Wilderness

This alternative would have primarily positive impacts on wilderness values in both the North Fork Owyhee and Squaw Creek Wilderness Study Areas. Shortened seasons of use, reduced stocking levels, and years of rest from grazing would reduce livestock-related impacts to naturalness. Removal of approximately 2.5 miles of fence within Squaw Creek WSA would increase naturalness in that area. Scenic quality, which is one of the special features of the North Fork Owyhee WSA, would improve with improvements in vegetative condition. Habitat conditions for redband trout, another special feature of the North Fork Owyhee WSA, would improve as livestock-related impacts to the North Fork watershed are reduced. The wilderness value of naturalness would continue to be negatively affected in portions of wilderness study areas which receive heavy livestock utilization.

There are no wilderness study areas in Hanley FFR allotment.

11. Social/Economic

Under this alternative, the permittee and the BLM would have direct costs for construction and removal of rangeland management projects. Direct costs to the permittees would be $15,000. Direct costs to the BLM would be $27,125.

There could also be some impact to the permittees because livestock would not be permitted to graze in the allotment during certain previously authorized periods. However, because the BLM does not have extensive knowledge of the permittees other ranching interests, alternative grazing options or access to the permittees financial and business records, it is impossible to quantify the effect. There could be potential for some of the displaced grazing use to be absorbed into other operations where the permittees have interest or the permittee could also be forced to find alternative rangeland to graze the livestock, feed or sell them. If the permittee opted to place the cattle on private hay meadows, it could cause disruption to haying operations and/or loss of hay crop.

This alternative would require the permittees to conduct timely pasture rotations and complete livestock removal at the end of the authorized grazing period(s). This would require that the permittees or someone they employ spend more time than they currently do gathering and moving cattle, and possibly increase operating costs. This alternative would also require the permittees or someone they employ to remove cattle from the allotment for a period and then return them at a later time. This could cause disruption to operating plans, and/or increase operating costs.

Overall, this alternative would result in more economic and social impact to the permittee than the proposed action or alternatives 2, 4, and 6.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-295 to IV-297).

D. Alternative 4 - Deferred Rotation (Map 4)

1. Upland Vegetation

This alternative would reduce Hanley Ranch permitted use 109 AUMs (2813-2704) however, the proposed use would be 296 AUMs greater than the 12 year (1988-1999) average actual use on the Trout Springs Allotment. The average actual grazing use in Pastures 1, 2 & 3 has been 2408 AUMs (1988-1999). The overall grazing season would be reduced from June 16 - Nov 15 to June 16 - October 30, by 16 days. Cattle numbers would increase from 555 to 600.

Pasture A & B

The grazing season of use would be during the late spring-early summer (6/16-7/7) alternating with fall grazing (9/30-10/30). The season of use would be an improvement over the current use period, however, the amount of use would substantially increase over the current use levels. The proposed use level would be 208 AUMs (1046-838) greater than the 12 year average actual use. The current grazing use has resulted in utilization of Idaho fescue, bluebunch wheatgrass and needlegrass in excess of 50 percent in 8 out of 10 years in which studies are available. The proposed use of 1046 AUMs would result in an increase in utilization degree and/or area. Overall the deferred use period could allow for some recovery of plant vigor, however, it would likely allow only minimal or no progress toward meeting the standard due to the higher level of use.

Pasture C, D & E

Under this alternative grazing would occur during the summer (7/8 - 9/29) and each pasture would be grazed for approximately one month each year over a 3 year period. In other words, a pasture would be grazed in primarily July, August or September varying each year over a 3 year timeframe. The season of use is similar to the present situation although grazing would begin approximately one week earlier and end approximately 2 weeks sooner. The proposed amount of use would be slightly higher than the 12 year average actual use (1658 AUMs versus 1570 AUMs).

The 12 year average actual use level of 1570 AUMs has resulted in utilization of greater than 50 percent on Idaho fescue, bluebunch wheatgrass and needlegrass in 6 out of the 9 years in which utilization data has been collected. The proposed use would result in an increase in utilization degree and/or area or at best remain unchanged. Overall this deferred rotation system could allow for recovery of plant vigor, however, it would likely not allow for significant progress toward meeting the standard due to the higher level of use.

Pastures 4 & 5 (Fairylawn) and Hanley FFR Allotment

Grazing on Pasture 4, 5 (Fairylawn) and Hanley FFR allotment would be the same as that described under Alternative 3 - Proposed Action.

Rangeland Projects

The construction of rangeland projects would result in some minor local negative impacts to the vegetation. Livestock may cause additional negative impacts to the vegetation as they congregate along new fences. This impact should also be minor.

2. Special Status Plants

Special status plants are likely to be adversely impacted by the increase in use by a greater number of cows under this alternative. For pastures A and B, the deferment in alternate years would allow most of the special status plants that are known or may occur there to complete their life cycle every other year, but the increase in use would not allow for improvement of their habitats, particularly in low sagebrush and mountain big sagebrush communities. Trampling impacts to Mud Flat milkvetch in Pasture B are likely to increase. Dimersia is found in pasture 5 as defined under the existing system. Vegetation communities in Pastures C, D, and E that may support special status plants are not expected to improve largely because of the increase in use. Riparian habitats, potential habitat for Ute ladies'-tresses, would not be expected to improve in pastures C, D, and E, though it is unlikely that this species occurs in this allotment. The condition of riparian habitats are likely to decline, with the exception of those inside the proposed gathering fence, where cattle would be excluded for the hotter parts of the season. The proposed range improvement projects and the area inside the gathering fence would be evaluated for the presence or absence of special status plants prior to construction. Any impacts would be avoided or minimized through project modification or relocation as under alternative 3.

3. Wildlife/Special Status Animals

Under this alternative, use in pastures A and B of the Trout Springs allotment would alternate between late spring/early summer and late summer/early fall. This would seem to be an improvement over the current situation of grazing every year during the active growing season because it would allow most herbaceous vegetation to complete growth and seed production which would maximize cover and forage for wildlife every other year. However, it would also result in substantially higher levels of livestock use and less available wildlife cover and forage and increased levels of physical disturbance during the periods of livestock use. Pastures C, D and E would all receive three weeks to a month of hot season use every year at slightly higher use levels, very likely resulting in the continuation of unsatisfactory riparian habitat conditions for the large diversity of dependant special status animals and other wildlife. The construction of an additional 7.65 miles of fence would result in some minor, short term impediments to big game movements and disturbance during construction and some minor, long term increases in wildlife mortality from collisions and entanglement.

4. Riparian/Aquatic Resources

Under this alternative Pastures A and B would receive alternate late spring and early fall use which overall would benefit the conditions of riparian/aquatic habitats in these pastures, provided that livestock were removed from these pastures such that duration and season of use are actually as proposed. When grazed in late spring, riparian vegetation would have enough time for regrowth such that vigor, density, and cover of stream side vegetation

should increase. Fall use would allow herbaceous vegetation to flower, set seed, and cure prior to livestock use. Vigor, cover and density would therefore increase. With fall use livestock use of woody riparian plants (primarily willows) would need to be closely monitored as during warm, dry fall weather livestock often concentrate grazing on willows such that growth, cover, and recruitment are negatively impacted.

Pastures C, D, and E all would be grazed annually during the hot season (July through September) such that livestock would congregate on riparian areas and use of herbaceous and woody riparian vegetation would be too great for riparian and aquatic habitats to improve. Most stream segments in these pastures would remain in functioning at risk condition under this grazing alternative.

5. Water Quality

Water quality of streams in Pastures A and B of the Trout Springs Allotment would likely improve over the long term under this alternative. Increased density, cover, and vigor of riparian vegetation would increase levels of stream shading, and deepen and narrow stream channels, thereby reducing solar input and stream temperatures. Livestock use during spring and fall should reduce the number of animals grazing on stream side vegetation and fecal coliform and *E. coli* bacteria inputs into the streams.

Water quality of streams in Pastures C, D, and E in the Trout Springs Allotment would continue to be negatively impacted under this alternative. Livestock would congregate on streams in these pastures during the hot season and riparian plant vigor, density, and cover will continue to be reduced below levels necessary for proper functioning riparian systems and stream channels. Weakened stream banks would result in higher levels of fine sediment in streams. Fine sediments are reservoirs for *E. coli* and fecal coliform bacteria. Stream channels would remain wide and shallow with lower levels of stream shading than that needed to keep streams from warming from solar input. The "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load" (TMDL) indicates that cold water biota and salmonid rearing standard attainment would require a 25-58% reduction in thermal energy; and Salmonid spawning standard attainment would require an increase in shade. Compliance with the 1999 TMDL would not occur and Standard 7 (Water Quality) for Rangeland Health would not be met in the foreseeable future.

6. Soils

Overall impacts to the watershed/soil resource (being closely tied to the vegetative community and soil surface stability) could be positive and watersheds health could be improved, however, the proposed increase in grazing use above average actual use would not allow for making significant progress toward meeting the watersheds Standard for Rangeland Health. In portions of all these allotments, where livestock use is limited and juniper invasion minimal, these standards are being better met.

Under this alternative grazing in Pastures A and B would alternate between late spring/early summer and fall under a two year system. This would allow for one year of deferred grazing in each pasture every other year. By deferring grazing the phenological needs of key plant species would be better met and some increase in plant vigor could be anticipated. Associated with this system is an increase in the level of use (208 more AUMs) for the pastures. This increase in level of use could reduce the amount of litter and cover provided by grass/forb species thereby offsetting deferment benefits. The affects on the watershed would be similar to the current management system with minimal progress being made in these pastures. Pasture D, C, and E would basically be grazed during the seed ripe stage and after (early summer into late summer) in a modified deferred grazing system. This would allow the key plant species to meet their phonological needs in at least two of the three pastures every year. This could increase plant vigor, however, the proposed grazing levels may remove too much standing plant material. The remaining litter and cover may be inadequate to protect the soil resource from climatic events. A decrease in cover and litter in the interspatial areas (those areas that are in the openings between the juniper and shrubs) could prove harmful to the watersheds ability to function properly.

Grazing in Pasture 4, 5 (Fairylawn) and Hanley FFR would be the same as described under Alternative 3- Proposed Action.

Watershed impairing affects due to western juniper invasion would continue. Where key forage species are allowed to meet their phonological growth needs these plants can better compete with the juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with juniper invasion.

Actions associated with fence construction and removal would have minimal impacts on the soil resource. Where these range improvement actions aid in the distribution and management of livestock a positive impact could occur on the watershed.

7. Cultural Resources

This alternative would have the potential to adversely affect cultural resources especially in riparian zones and spring areas where cattle tend to concentrate and trample the ground, resulting in loss of integrity of cultural resource sites. This would likely occur in Pastures C, D and E however, this alternative would likely preserve the integrity of cultural resources along riparian zones in Pastures A and B. Other impacts are as described under Alternative 2. Additional impacts of the fence construction would be addressed on a project-by-project basis for compliance with Section 106 of the National Historic Preservation Act.

8. Visual Resource Management

Under this alternative, the impacts to scenic quality that occur in areas where livestock congregate would continue. Scenic quality would improve in some areas as vegetative condition improves due to changes in grazing seasons, but would not improve in other areas due to the high number of livestock and livestock effects on riparian vegetation.

9. Recreation

With this alternative, impacts to recreation that are currently occurring due to livestock grazing would continue to occur. The new fences would be an impediment to cross-country travel for recreationists on foot and horseback. Recreational use levels would likely continue to incrementally increase, which is the trend throughout the area.

10. Wilderness

Under this alternative, the wilderness value of naturalness would continue to be negatively affected in areas of the North Fork Owyhee WSA and Squaw Creek WSA which receive heavy livestock utilization. The outstanding scenic quality of the North Fork Owyhee WSA would continue to be negatively affected in areas of heavy livestock utilization. Construction of the Juniper Mountain fence extensions, to separate pastures B from C and C from D, would require the construction of approximately 1.5 miles of new fencing within the Squaw Creek WSA. Construction of these fences would cause new surface disturbance. The fences would negatively affect the primary values of naturalness and primitive and unconfined recreational values within the WSA, and would be noticeable within the WSA. The new fence construction would not be in conformance with BLM policy for administration of wilderness study areas.

There are no wilderness study areas in Hanley FFR allotment.

11. Social/Economic

Under this alternative, the permittee and the BLM would have direct costs for construction and removal of rangeland management projects. Direct costs to the permittees would be $20,375. Direct costs to the BLM would be $21,475.

This alternative would require the permittees to conduct timely pasture rotations and complete livestock removal at the end of the authorized grazing period(s). This would require that the permittees or someone they employ spend more time than they currently do gathering and moving cattle, possibly increasing operating costs.

Overall, when compared to the proposed action and alternatives 3 and 6, this alternative would appear to cause the least economic impact to the permittees, because cattle numbers would increase and the current season of use would be retained.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-128 to IV-129).

E. Alternative 5 - Proposed Action (Map 5)

This alternative would be phased in over a two year period providing a more reasonable economical and operational pace for Hanley Ranch Partnership. This alternative would be fully operational in 2003.

1. Upland Vegetation

Under this alternative, livestock grazing use on Pastures 1 and 3 would occur in the early summer for two years followed by no grazing for two years. Grazing use as proposed should result in moderate utilization levels. This grazing program should result in opportunities for the primary forage species to complete their growth cycles and meet their phonological requirements. The proposed level of use in Pasture 1 and 3 would be approximately 567 AUMs. This compares with the average actual use of 1570 AUMs. Over the long term, this should result in improvements in vigor and production of the key forage species and result in greater availability of litter for site protection and nutrient cycling.

In Pasture 2 grazing use would occur every year but after the seedripe stage on key forage species. The grazing level would be nearly identical to the average actual use of 839 AUMs. Active management of the cattle would be necessary to ensure moderate use levels and unacceptable patterns of use do not occur. If active management is practiced then moderate use levels (not to exceed fifty percent use) coupled with grazing after seedripe should result in improvement in vigor and production of key forage species and result in greater availability of litter for site protection and nutrient cycling.

The construction of 11.3 miles of fence, the removal of 6.25 miles of fence and the development of two springs would have a minor short term impact on the upland vegetation.

This alternative overall would have a positive impact on the upland vegetation which should result in making significant progress toward meeting the native plant communities standard for rangeland health.

2. Special Status Plants

It is expected that trampling impacts that are occurring, if any, to the Mud Flat milkvetch population in Pasture 2 would be reduced under this alternative. The reduction in use and deferment to a later season of use (July 16-August 30) will have positive effects on the low sagebrush and mountain big sagebrush communities that this species inhabits. The communities would be expected to recover faster and more fully if a rest period were incorporated as under Alternative 3. Impacts to dimeresia (Pasture 5) will be the same as those discussed under Alternative 3. It is expected that deferment and a reduction in use will reduce any impacts that may be occurring to that population. Range improvement projects under this alternative will have no adverse impact on any known occurrences of special status plants, however, site-specific surveys will be conducted and any necessary mitigation will be recommended as under all of the action alternatives. Riparian habitats, which may provide potential habitat for Ute ladies'-tresses are expected to improve under this alternative, though not as well as under Alternative 3. It is unlikely that this species occurs in this allotment, however.

3. Wildlife/Special Status Animals

Both upland and riparian habitats should improve under this alternative. The reduction in stocking rate, lack of early spring use and alternate year's rest in Pastures 1 and 3 would result in rapid improvement of desirable plant species vigor and production and increased ground cover and structure, all of which should enhance habitat for most wildlife by increasing nesting and hiding cover and increasing forage, seed and insect production. It would also avoid any physical disturbance of populations or habitats during the majority of the breeding and nesting seasons. The lack of hot season grazing and alternate years rest should also result in especially rapid improvement of riparian habitats in these pasture. Annual deferred grazing use of Pasture 2 should result in steady improvement of upland habitats while fencing to exclude livestock from stream riparian habitats should also result in their rapid and complete recovery.

The construction of approximately 11.3 miles of additional pasture and exclosure fence would result in some minor, short term impediments to big game movements and disturbance during construction and some minor, long term increases in wildlife mortality from collisions and entanglement. These same fences should, however, facilitate the implementation of proposed grazing system which is expected to result in rapid and long term improvement in habitat conditions for most wildlife and special status species. The proposed removal of 6.25 miles of fence should offset some of the adverse impacts associated with the new fence construction by removing barriers to movement and reducing any death losses that might have occurred if they had been left in place. The development of Albiston and Middle Fork springs would result in some loss of water from these systems which could result in adverse impacts to dependent riparian vegetation, wildlife and special status species. However, overflow from the troughs would be directed

back into the drainage, which should limit the loss of water from the system.

Although not yet documented at Albiston spring, Columbia spotted frogs are known to occur along Cottonwood Creek within a half mile downstream and development would likely adversely affect its suitability as an overwinter hibernacula for this federal Candidate species. Both springs and associated riparian habitat would be fenced to exclude livestock and should result in a significant improvement in the condition of riparian habitat for most dependant species, possibly including non-wintering habitat for spotted frogs.

4. Riparian/Aquatic Resources

The proposed action would improve riparian and aquatic resources in the Trout Springs Allotment over the long term. In Pastures 1 and 3, the proposed stocking rate reduction, coupled with alternating two years of late spring/early summer grazing (June 15 to July 15) and two years of rest, would facilitate recovery of riparian/aquatic habitats. The availability of palatable herbaceous plants in the uplands during the early portion of authorized period of use could induce livestock to spend more time out of the riparian zone, thus reducing the use of herbaceous riparian plants as well as reducing the amount of soil compaction and bank trampling from current levels. However, livestock use of herbaceous vegetation would still be high during years the pastures are grazed. With the earlier season of use, livestock use of woody riparian plant species would be reduced, thereby providing for greater growth during the critical growth period, and also improved survival of young plants during the years the pastures are grazed. Density, cover, and vigor of riparian plants, particularly that of young willows, would improve during the consecutive years of rest, resulting in an overall upward trend in condition of riparian/aquatic habitats.

Improvement of riparian/aquatic habitats in Pasture 1 would be slower than that under alternative 3. The western slopes of Juniper Mountain are very steep and densely vegetated with juniper trees, making removal of livestock from Pasture 1 extremely difficult, particularly during the summer. If all livestock are not removed from Pasture 1 by July 15, improvement in riparian/aquatic habitats during the years of rest would likely be negated by high levels of livestock use during two consecutive years of grazing. Topography of Pasture 3 is more conducive to herding livestock, but dense juniper cover and steep slopes also hinder effective livestock herding in this pasture.

Under the proposed action, Pasture 2 would be grazed during the summer (July 16 to August 30) annually. Accessible portions of Cottonwood Creek would be fenced to eliminate livestock use, and therefore riparian/aquatic habitats in this pasture would either continue to function properly or improve in condition over the mid to long-term. By grazing pasture 2 in summer, livestock use of the pasture may change because upland vegetation will be cured and less palatable. Livestock may access additional areas of

Cottonwood Creek and the North Fork of the Owyhee River in this pasture that they did not previously use. Monitoring changes in livestock use patterns and meeting short-term resource objectives for riparian vegetation use would insure riparian/aquatic habitats would not be negatively impacted (see Appendix 1 for monitoring plan). Similarly, use of riparian plants by livestock would be monitored in pastures 1 and 3 to determine the effectiveness of removing livestock by July 15.

The construction of 11.3 miles of new fence and the removal of 6.25 miles of fence would have little impacts on riparian areas, except those portions of Cottonwood Creek being excluded from livestock. Those areas excluded would benefit greatly from no livestock grazing.

Squaw Creek is largely inaccessible to livestock in Pasture 4. However, there is a water gap that is accessible, and it is expected that there would be deterioration of riparian/aquatic condition within the water gap since livestock would be in this pasture during the hot season (July 1 to October 15), and they tend to seek out riparian zones during this time. It is expected that this alternative would have minimal effect on that portion of Squaw Creek that is located outside the water gap.

No riparian or aquatic resources are present on public lands in Pasture 5 or the Hanley FFR Allotment.

Improved vegetative conditions of riparian areas in Pastures 1, 2, and 3 would result in increased buffering of the erosive forces of high stream flows and increased filtering of sediment, allowing for bank stabilization and aggradation, and also increases in stream shading. Streambank stability would improve, water infiltration and bank storage would increase, and water quality, and fishery habitat would improve over the long term. This alternative would meet or make significant progress toward meeting Standard 2 (Riparian Areas and Wetlands) and Standard 3 (Stream Channel/Floodplain) for Rangeland Health in the Trout Springs Allotment.

5. Water Quality

The proposed action would improve water quality in streams on the Trout Springs allotment over the long term. Under the proposed action, the amount of streambank trampling by livestock would be reduced due to the elimination of most hot-season grazing use and providing periods of rest from livestock use. This would result in less sediment deposition in the streams and a reduction in fecal contamination of streams. Improved riparian vegetation conditions would increase filtering of sediment, which would result in streambank development and the narrowing and deepening of stream channels. This in conjunction with increased stream cover (shade) would reduce water temperature, thereby complying with or approaching compliance with the 1999 “North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load” document and Standard 7

(Water Quality) for Rangeland Health.

6. Soils

Over all impacts to the watershed/soil resource (being closely tied to the vegetative community and soil surface stability) would be positive and watershed health would be improved. This would allow for moving toward significant progress in meeting Standards for Rangeland Health in these allotments. Pastures 1 and 3 have the best opportunity for improvement while progress in Pasture 2 will take longer. In portions of all these allotments, where livestock use is limited and juniper invasion minimal, these standards are being better met.

Under the Proposed Action - Alternative (5) rest and deferment would be incorporated into the grazing system. Pastures 1 and 3 would be grazed in early summer (6/15 - 7/15) where each pasture is grazed for two consecutive years and then rested for two consecutive years in a rotational system. Use in each of these pastures is also for a shorter period than the current situation. These factors would reflect positively on rangeland health and watershed function by increasing the plant community component values (plant composition, density, vigor, cover, and litter) and lessening mechanical impacts to the physical and biological components of the soil surface. Pasture 2 would be grazed in a deferred fashion each year. This means grazing would occur after the key forage species have met their phonological requirements and are dormant. This would benefit the watershed aspects of this pasture in terms of the plant community component similar to Pastures 1 and 3. Pastures 4 and 5 of this allotment would be managed as described under Alternative 3. By incorporating specific utilization limits on key perennial grass species these plants could better meet their phonological growth needs and both the litter and canopy cover component of the systems could be improved which would reflect positively on rangeland health and watershed function. Mechanical impacts to the soil surface from livestock hoof action would continue in those areas where livestock tend to congregate (water, salt, gates). Many of the erosional features that have been documented in this allotment (pedastalling is an example) have developed over many tens of years and under older grazing management systems. The proposed system could aid in making significant progress towards healing these processes where they are evident. It must be realized that under any improved grazing system positive changes to the watershed characteristics (making progress in terms of watershed/rangeland health) will take time and is dependent on other attributes beside just grazing.

The Hanley FFR would be grazed at the discretion of the permittee with utilization limited to 50%. Without knowledge of the system the permittee would utilize the impacts to the watershed can not be fully addressed. If the 50% utilization limit is adhered to then the affects would be positive in general.

Watershed impairing affects due to western juniper invasion would continue. By allowing the key forage species to meet their phonological growth needs these plants can better compete with the juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with juniper invasion.

Water developments could affect the soil resource by concentrating use which results in herbivore trampling (causing soil compaction and/or structural breakdown) and herbivore stripping of vegetative cover. These impacts would be confined to the immediate area around the development and dissipate radially out from the development. Where these types of developments improve the distribution of livestock and prevent negative impacts to the riparian corridors by keeping livestock on the upland areas there could be an overall benefit.

Actions associated with fence construction/moving/removal would have minimal impacts on the soil resource. Again, where these range improvement actions aid in the distribution and management of livestock a positive impact could occur on the watershed.

7. Cultural Resources

This alternative has potential to improve range conditions and preserve the integrity of cultural resources. Additional impacts of the range improvement projects would be addressed on a project-by-project basis for compliance with Section 106 of the National Historic Preservation Act.

8. Visual Resource Management

This alternative would have positive impacts to visual resources over the long term, in the Trout Springs Allotment. Anticipated improvements in vegetative cover, both in riparian areas and in the uplands, would enhance scenic quality and result in more primitive and natural landscapes. The proposed fences and spring developments would be constructed in Class IV VRM areas where that type of construction is acceptable.

In Hanley FFR, there would be no significant change to visual resources.

9. Recreation

There would be some positive and some negative impacts to recreation under this alternative, in the Trout Springs allotment. Improvements in scenic quality due to improved vegetative condition would positively affect scenic quality, which would also positively affect recreationists' experiences. This improvement would be somewhat cyclic, as vegetative conditions observable to recreationists would vary dramatically depending on the time of visitation relative to when the area had been grazed. A reduction in livestock stocking levels and duration of use would reduce livestock impacts and make

areas desirable for recreation, including both riparian areas and uplands, more attractive to recreationists. Improved habitat conditions for wildlife would lead to improved opportunities for wildlife viewing, hunting, fishing, and nature study. Areas where livestock congregate would continue to negatively affect recreationists' experiences, both during and after the grazing season. The new fences would be an impediment to cross-country travel for recreationists on foot and on horseback, however this would be partially offset by the removal of other fencing within the allotment. Improvements in scenic quality, recreational opportunities, riparian conditions, and wildlife habitat would slightly enhance wild and scenic river values of the North Fork of the Owyhee River.

There would be no change to recreation in Hanley FFR allotment under this alternative.

10. Wilderness

This alternative would have primarily positive impacts to wilderness values in both the North Fork Owyhee and Squaw Creek Wilderness Study Areas. Shortened seasons of use, reduced stocking levels, and years of rest from grazing in Pastures 1 and 3 would reduce livestock-related impacts to naturalness. Removal of approximately 2.5 miles of fence within Squaw Creek WSA would increase naturalness in that area. Scenic quality, which is one of the special features of the North Fork Owyhee WSA, would improve with improvements in vegetative condition. Habitat conditions for redband trout, another special feature of the North Fork Owyhee WSA, would improve as livestock-related impacts to the North Fork watershed are reduced. The wilderness value of naturalness would continue to be negatively affected in portions of wilderness study areas where livestock congregate. For preserving wilderness values, this alternative would have similar positive effects to alternative 3, and would be much more beneficial than alternatives 2, 4 or 6.

11. Social/Economic

Under this alternative, the permittee and the BLM would have immediate, direct costs for construction and removal of rangeland management projects. Direct costs to the permittees would be $29,500. Direct costs to the BLM would be $38,825.

There could also be some impact to the permittees because livestock would not be permitted to graze in the allotment during certain previously authorized periods. However, because the BLM does not have extensive knowledge of the permittees other ranching interests, alternative grazing options or access to the permittees financial and business records, it is impossible to quantify the affect. There could be potential for some of the displaced grazing use to be absorbed into the other operations where the permittees have interest or the permittee could be forced to find alternative rangeland to graze the livestock, graze them on hay aftermath, feed them, or sell them. The displaced cattle could be more easily re-located when compared to alternative 3, because haying operations

would typically be finished for the year and would not be disrupted. The cattle could also be placed on hay aftermath.

This alternative would require the permittees to conduct timely pasture rotations and complete livestock removal at the end of the authorized grazing period(s). This would require that the permittees or someone they employ spend more time than they currently do gathering and moving cattle. However, this alternative would require less cattle movement when compared to alternatives 3, 4 and 6 and result in less associated labor costs.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-295 to IV-297).

F. Alternative 6 - Modified Deferred Rotation (Map 6)

1. Upland Vegetation

Under this alternative, the Hanley Ranch permitted use would be reduced from 2813 AUMs to 2072 AUMs or 741 AUMs. This would be a reduction of 336 AUMs from the average actual use (2408-2072=336) in Pastures 1, 2 and 3. The overall grazing season would be reduced from the current season of June 16-Nov 15 to June 16-Oct 16 or by one month. Proposed cattle numbers (550) would be similar to the present numbers (555). Cattle numbers would be reduced to 450 on August 23 and remain at that number until the end of the grazing period.

Pastures A and B

In Pastures A and B grazing use would occur every year but after the seedripe stage on key forage species. The proposed grazing level within these two pastures would be similar to the average actual use or 799 AUMs proposed compared to the average actual use of 838 AUMs. Active management of the cattle would be necessary to ensure moderate use levels and unacceptable patterns of use do not occur. If active management is practiced then moderate use levels (not to exceed 50 percent use) coupled with grazing after seedripe should result in improvement in vigor and production of key species and result in greater availability of litter for site protection and nutrient cycling.

Pastures C, D and E

Under this alternative grazing would occur in these three pastures from June 16 to August 23 every year. Grazing would not exceed 23 days in any one pasture in any one year. Livestock would graze one of three timeframes over a three year period (6/16-7/8, 7/9-7/31 or 8/1-8/23).

Grazing would begin approximately six weeks earlier and end approximately 11 weeks earlier than the present situation. The proposed level of use 1248 AUMs compares with an average actual use of 1570 AUMs.

The proposed season of use would result in grazing two years in three when the key forage plants are actively growing. This would be particularly true in Pastures C, D & E where elevations exceed 5500 feet. When comparing this alternative with the present situation in Pastures C, D & E livestock grazing would change from that of deferment every year to grazing two years in three when forage plants are actively growing. Studies conducted on Juniper Mountain and published in the Owyhee Grazing EIS (1981) show that Idaho fescue growing at 5,000 feet normally would not reach the seedripe phonological stage until
July 28 and August 14 at 6,000 feet. Grazing when forage plants are actively growing can reduce their vigor and production especially if use levels exceed light use. The proposed 20 percent reduction in use would benefit the upland vegetation. The two actions, one being positive and the other being negative, could result in no significant change in the upland vegetation and may result in negative impacts to the vegetation.

It was determined that the Native Plant Standard for rangeland health was being met within the proposed Pastures C, D & E. However, the Trout Springs Allotment Determination stated that, "In all pastures livestock grazing has resulted in a decline of plant vigor, a reduction in size of individual plants, the loss of plants and a reduction in litter in the inter-spatial areas . . ." The determination also states that western juniper development has contributed along with livestock grazing to reduce plant community integrity.

Rangeland Projects

The construction of rangeland projects including two spring developments approximately 9.95 miles of fence, and removal of approximately .5 mile of fence would have a negative impact on the vegetation during construction/removal. The negative impact would result from driving over vegetation and cutting of vegetation including juniper boughs and some trees and the placement of the spring collection headbox, pipeline and troughs. Although the negative impact could be severe in some areas the overall impact would be localized and temporary. Livestock impacts such as trailing along new fences may also cause some damage to the vegetation but these kinds of impacts would not be significant.

2. Special Status Plant Species

Low sagebrush and mountain big sagebrush communities in pasture B are expected to improve under this alternative, which would improve habitat conditions for Mud Flat milkvetch. Trampling impacts, if any, in Pasture B where this plant is known to occur would be reduced under this alternative due to the change in use from earlier to later in the

year and with a reduction in use.

The proposed reduction of grazing use in Pastures A and B are greater under this alternative than under alternative 5. Impacts to dimeresia would be the same as under alternative 3. Severe, direct impacts to special status plants could be avoided by placing supplements and water away from any known occurrence, including any populations that may be found in either allotment in the future. Range improvement projects planned under this alternative would have no impact on any known occurrences of special status plants. Site-specific surveys would be conducted prior to construction to determine the presence or absence of these plants and to eliminate or minimize adverse impacts if necessary. Riparian habitats are not expected to improve in all pastures under this alternative; potential habitat for Ute ladies'-tresses will remain in poor condition, though it is unlikely that this species occurs here.

3. Wildlife/Special Status Animals

Under this alternative, use in pastures A and B of the Trout Springs allotment would alternate between late summer and early fall. This would be a slight improvement over the current situation of grazing every year during the later part of the active growing season because it would allow vegetation to complete growth and seed production which would maximize nesting cover and forage and avoid any physical disturbance of wildlife habitat and populations during the critical nesting/breeding season every year. However, even though there would be a slight reduction in total authorized use, it would result in greater concentration of livestock and could result in substantially higher utilization of bitterbrush, mountain mahogany and other browse which is an important forage component for both cattle and wild ungulates during this time of year when grasses and forbs have cured and become less palatable and nutritious. This could result in reduced forage availability and quality for deer and other ungulates in these pastures but would be offset by the lack of late summer/early fall grazing and increased browse availability in the other pastures.

Although most riparian habitat in these pastures would be excluded from livestock grazing, annual hot season grazing would likely result in the continuation of degraded habitat conditions and/or deterioration of habitat at remaining unprotected stream reaches and springs. These areas are more likely to be heavily impacted under this system which would concentrate all of the permittee's cattle into much smaller pastures while excluding them from riparian habitats that may have traditionally received the brunt of use because they were more accessible to livestock.

Pastures C, D and E would all receive three weeks of concentrated grazing during the hot season at least two out of three years. Even with the proposed modest reduction in use levels, this system is likely to result in the maintenance of unsatisfactory wildlife and special status species habitat conditions at unprotected stream reaches, springs and wet meadows as described under III C (Affected Environment - Wildlife). The increased concentration of livestock into smaller pastures and increased frequency of livestock gathering and movement under this system will also result in increased physical

disturbance of wildlife habitats and populations. The increased frequency of pasture rotation along with the permittee's demonstrated inability to effectively gather and move livestock in this allotment also make it very likely that some additional grazing will occur after scheduled move dates which would exacerbate the discussed adverse impacts within the affected pasture.

The construction of an additional 10.5 miles of fence within the Trout Springs allotment would result in some minor, short term impediments to big game movements and wildlife habitat disturbance during construction and some minor, long term increases in wildlife mortality from collisions and entanglement while providing for full implementation of the proposed grazing system and its described impacts. The Gather Field, Cottonwood and North Fork of the Owyhee River, Albiston Spring and Middle Fork Spring fences would all result in permanent exclusion of livestock form riparian areas resulting in the rapid improvement of forage and cover and elimination of livestock disturbance of habitats and populations of dependant special status animals and other wildlife. The impacts of developing Albiston and Middle Fork springs would be the same as those described under Alternative 5.

4. Riparian/Aquatic Resources

Under this alternative Pastures A and B would receive alternate late summer and late summer/early fall use. Accessible portions of Cottonwood Creek and North Fork Owyhee River would be fenced to eliminate livestock use, and therefore riparian/aquatic habitats in this pasture would either continue to function properly or improve in condition over the mid to long-term. By grazing these pastures in late summer and early fall use, livestock may use the pastures differently because upland vegetation will be cured and become less palatable. Livestock may access additional areas of Cottonwood Creek in Pasture A that they did not previously use. Livestock use of woody riparian plants (primarily willows) would be monitored to ensure changes in livestock use within the pasture do not result in high levels of browsing on woody riparian shrubs.

Pastures C, D, and E would be grazed in the summer in two out of three years and would be grazed in late spring/early summer (16 June to 8 July) during the third year. The rugged topography of these pastures limits livestock distribution and concentrates livestock use on riparian habitats, particularly during hot weather. Consequently, the deferred-rotation grazing system would result in high levels of livestock use of herbaceous vegetation annually, and high use of woody shrubs and physical bank damage in two out of three years. Additionally, with this alternative, duration of annual hot season grazing would average 18 days, which is about 150% greater than that known to successfully maintain riparian conditions. Based on regrowth studies conducted in similar habitat in eastern Oregon, and NOAA climatological data for southwestern Idaho, regrowth of riparian vegetation under this grazing system would be very low in two out of three years. Vigor, density, and cover of late-seral vegetation (willows, sedges, and rushes) and bank

stability would not improve under this alternative because high levels of livestock use of riparian vegetation and high levels of bank alteration during the two years of hot season grazing would negate the potential benefits of lower use of woody riparian shrubs and herbaceous regrowth during the one out of three years of late spring/early summer grazing. Most riparian and aquatic habitats would not improve in condition and stream segments in these pastures would remain in functioning at risk condition under this grazing alternative.

5. Water Quality

Water quality of streams in Pastures A and B of the Trout Springs Allotment would likely improve over the long term under this alternative. Density, cover, and vigor of riparian vegetation would increase by excluding livestock from accessible portions of streams. Stream shading would increase over the long term, and stream channels would deepen and narrow, thereby reducing solar input and stream temperatures. Excluding livestock from accessible portions of streams would also reduce fecal coliform and *E. coli* bacteria inputs to streams. Changing grazing to late summer/early fall may result in livestock using these pastures differently and accessing portions of streams they previously did not use. Livestock use of woody riparian plants would be monitored to ensure that fall grazing would not impact water quality by reducing woody plant cover and stream shading.

Water quality of streams in Pastures C, D, and E in the Trout Springs Allotment would continue to be negatively impacted under this alternative. Livestock would congregate on streams in these pastures during the hot season and riparian plant vigor, density, and cover will continue to be reduced below levels necessary for proper functioning riparian systems and stream channels.

Weakened stream banks would result in higher levels of fine sediment in streams. Fine sediments are reservoirs for *E. coli* and fecal coliform bacteria. Stream channels would remain wide and shallow with lower levels of stream shading than that needed to keep streams from warming from solar input. The "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load" (TMDL) indicates that cold water biota and salmonid rearing standard attainment would require a 25-58% reduction in thermal energy; and Salmonid spawning standard attainment would require an increase in shade. Compliance with the 1999 TMDL would not occur and Standard 7 (Water Quality) for Rangeland Health would not be met in the foreseeable future.

6. Soils

Over all impacts to the watershed/soil resource (being closely tied to the vegetative community and soil surface stability) would be positive and watershed health would be improved. This would allow for making significant progress in meeting Standards for Rangeland Health in Pastures A and B. Pastures C, D, and E would not make progress in meeting Standards for Rangeland Health and could possibly decline even further in terms

of the plant community under this alternative.
Under this alternative grazing in Pastures A and B would alternate between late summer/early fall under a two year system. This would allow for deferred grazing in each pasture every year. By deferring grazing the phonological needs of key plant species would be better met and increase in plant vigor and reestablishment could be anticipated. Pastures C, D, and E would basically be grazed during the critical growing period and seed ripe stage (late spring into early summer) two out of every three years with a somewhat deferred grazing season (mid summer) in one of those years of this three pasture system. This would allow the key plant species to fully meet their phonological growth needs only one year out of three in these pastures. Due to the current condition of the plant community in these pastures (rated as at risk) it is not anticipated that plant vigor and reestablishment would benefit greatly under this system and greater impacts to the plant community could occur which could reflect negatively on watershed health. Depending on the intensity of the grazing in any of the pastures, if it removes too much standing plant material, watershed benefitting litter and cover may be inadequate to protect the soil resource from climatic events and maintain nutrient cycles. Any decrease in the lack of cover and litter in the interspatial areas (those areas that are in the openings provided by juniper and shrubs) would prove harmful to watershed health. The mechanical damage to the soil resource that is occurring in Pasture C could continue under this alternative particularly if the soils are still wet in the year that grazing occurs in June.

Late season use in Pasture 4 (as proposed in Alternative 3), after the soils have dried out, would reflect very positively on the soils in terms of lessening the mechanical impacts to the soil by livestock hoof activity and better meeting the phonological needs of key plant species.

Watershed impairing affects due to western juniper invasion would continue. Where key forage species are allowed to meet their phonological growth needs these plants can better compete with the juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with juniper invasion.

The Hanley FFR would be grazed at the discretion of the permittee with utilization limited to 50 %. Without knowledge of the system the permittee would utilize the impacts to the watershed resource can not be fully addressed. If the 50% utilization limit is adhered to then the affects would be positive in general.

Water developments could affect the soil resource by concentrating use which results in herbivore trampling (causing soil compaction and/or structural breakdown) and herbivore stripping of vegetative cover. These impacts would be confined to the immediate area around the development and dissipate radially out from the development. Where these types of developments improve the distribution of livestock and prevent negative impacts to the riparian corridors by keeping livestock on the upland areas there could be an overall benefit. Actions associated with fence construction/moving/removal would have minimal impacts on the soil resource. Again, where these range improvement actions aid in the distribution and management of livestock a positive impact could occur on the watershed.

7. Cultural Resources

This alternative would have the potential to adversely affect cultural resources especially in riparian zones and spring areas where cattle tend to concentrate and trample the ground, resulting in loss of integrity of cultural resource sites. This would likely occur in Pastures C, D and E however, this alternative would likely preserve the integrity of cultural resources along riparian zones in Pastures A and B. Additional impacts of the fence construction would be addressed on a project-by-project basis for compliance with Section 106 of the National Historic Preservation Act.

8. Visual Resource Management

Under this alternative, the negative impacts to scenic quality that are currently occurring in areas where livestock congregate would continue. This would include upland areas with concentrated grazing, and places with hot season grazing along riparian areas. The gap fencing along the North Fork Owyhee River would be constructed in a VRM Class I area where construction of new range facilities is prohibited (Owyhee Resource Management Plan, 1999)**.**

9. Recreation

With this alternative, impacts to recreation that are currently occurring due to livestock grazing would continue to occur. The new fences would be an impediment to cross-country travel for recreationists on foot and horseback. Recreational use levels would likely continue to incrementally increase, which is the trend throughout the area.

10. Wilderness

Under this alternative, the wilderness value of naturalness would continue to be negatively affected in areas of the North Fork Owyhee WSA and Squaw Creek WSA which receive heavy livestock utilization. The outstanding scenic quality of the North Fork Owyhee WSA would continue to be negatively affected in areas of heavy livestock utilization.

Construction of the Juniper Mountain fence extensions, to separate Pastures C from D, would require the construction of approximately .3 mile of new fencing within the Squaw Creek WSA. Gap fences proposed along the south rim of the North Fork of the Owyhee River would require an estimated 0.25 miles of fence construction within the North Fork Owyhee River Wilderness Study Area. The primary purpose of the gap fencing is to allow hot season grazing to occur annually in the uplands of Pasture 2 (Pasture A), while keeping livestock out of the adjacent river corridor. The actual amount of gap fencing that would need to be constructed to accomplish the objective of keeping livestock from accessing the river from the south is unknown, as a field survey has not been conducted. If

the gap fences are constructed, livestock would have continued access to the river corridor from the north rim, in the Cliffs allotment, which is unfenced. Construction of these fences would negatively affect the primary values of naturalness and primitive and unconfined recreational values within the wilderness study areas.

There are no wilderness study areas in Hanley FFR allotment.

11. Social/Economic

Under this alternative, the permittee and the BLM would have direct costs for construction and removal of rangeland management projects. Direct costs to the permittees would be $24,875. Direct costs to the BLM would be $24,925.

This alternative would require the permittees to conduct timely pasture rotations and complete livestock removal at the end of the authorized grazing period(s). This would require that the permittees or someone they employ spend more time than they currently do gathering and moving cattle, possibly increasing labor costs.

Overall, economic impact to the permittees form this alternative would be similar to alternative 4.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-128 to IV-129).

V. MITIGATION

A. Site specific surveys will be conducted for special status species prior to implementation of all the projects. In the event of discovery of resource values that might be impacted by the project, the project will be relocated or modified to such an extent that the impacts will be avoided or mitigated to an acceptable level.

B. Site specific surveys will be conducted for rare animal species prior to implementation of all the projects. In the event of discovery of resource values that might be impacted by the project, the project will be relocated or modified to such an extent that the impacts will be avoided or mitigated to an acceptable level.

C. Site specific surveys will be conducted for cultural values prior to implementation of all the projects. In the event of discovery of significant cultural resource values that might be impacted by the project, the project will be relocated or modified to such an extent that the impacts will be avoided or mitigated to an acceptable level, or other mitigation measures proposed and implemented.

D. All soil surfaces exposed due to construction of rangeland projects (such as spring

construction) will be seeded with a mixture of appropriate native species.

E. The development of Albiston Spring and Middle Fork Spring will be designed to capture no more than 50% of the flow. To ensure the long-term productivity and ecological integrity of these Springs, the source water area will be protected from livestock grazing.

F. No motorized equipment will be used to remove the fences within Squaw Creek WSA.

VI. PUBLIC PARTICIPATION

Affected permittees, the State agencies having lands or responsible for managing resources within the area, and interested publics were consulted during the allotment assessment and NEPA review process. They were mailed a letter dated May 12, 2000 informing them that the assessment process was beginning and comments, data, photographs, etc. that they possess and they feel would help or improve the assessments were due into the BLM office on July 15, 2000.

On June 11, 2000 Mr. Hanley accompanied the BLM on the Trout Springs allotment for purposes of understanding and conducting rangeland health assessments.

The draft assessments were completed and mailed on March 26, 2001. A letter sent with the assessments requested comments on the draft assessments by April 15, 2001.

Final assessment and determination documents were mailed on July 6, 2001. A letter sent with these documents requested comments for BLM's consideration on proposed actions necessary to rectify the issues raised in the determination documents. Comments were due August 3, 2001. Comments were received, and all substantive comments were considered in the preparation of the EA document.

A meeting was held with the livestock grazing permittee (Mr. Hanley) on August 27, 2001 for the purpose of discussing or presenting changes to present management on the Trout Springs and Hanley FFR allotments that would make significant progress toward achieving the standards for rangeland health and conform with guidelines for livestock grazing management.

A meeting was held with Mr. Hanley and Mr. Pat Payne on January 30, 2002. The purpose of this meeting was to discuss protests to the January 2, 2002 Proposed Decisions. Also, at this meeting a grazing proposal for the Trout Springs allotment was submitted by Mr. Hanley for BLM's consideration.

A meeting was held with the livestock permittee (Mr. and Mrs. Hanley, their consultant, Dr. Chad Gibson and a neighbor Mr. Pat Payne) on February 19, 2002. The purpose of the

meeting was to discuss the Proposed Action Alternative in this EA. As a result of this dialogue, the permittees proposed an additional alternative, as did the Owyhee Field Office.

APPENDIX 1

WATER QUALITY RESTORATION PLAN

Water Quality Restoration Plan
Portion of the North Fork Middle Fork Owyhee River Sub-Basin (HUC #17050107)
including Pleasant Valley Creek and Squaw Creek Watersheds
and a portion of the North and Middle Fork Owyhee Rivers.

A. Overview

Streams on the Trout Springs allotment include all or portions of: North Fork Owyhee River, Pleasant Valley Creek and tributaries, Squaw Creek and tributaries, Hells Creek and tributaries, Salt Creek, Grave Creek, Twin Springs Ridge Creek, Cottonwood Creek, Middle Fork Owyhee River, Granite Spring Creek Tributary, West Fork Red Canyon Creek, Bear Creek, Little Thomas Creek, Thomas Creek and tributaries, Smith Creek and tributaries, and Little Smith Creek and tributaries.

The North Fork Owyhee River and Middle Fork Owyhee River drain generally west from Idaho into Oregon from the South Mountain and Juniper Mountain areas of the Owyhee Mountain range. The Middle Fork Owyhee River drains the western slope of Juniper Mountain. The North Fork Owyhee River drains the north slope of Juniper Mountain and south slope of South Mountain. Red Canyon drains the south slope of Juniper Mountain. The streams listed above, in the Trout Springs grazing allotment, are used primarily for livestock grazing and fish and wildlife habitat.

In 1998, five water bodies in the Trout Springs Allotment (four water bodies in Middle Owyhee HUC (#17050107) and one water body in Upper Owyhee HUC (#17050104)) were classified by the Environmental Protection Agency (EPA) under 303(d) of the Clean Water Act as water quality limited for the following reasons:

HUC #17050107

North Fork Owyhee River - High temperature and excessive bacteria.
Middle Fork Owyhee River - Excessive sediment, high temperature, flow alteration
Squaw Creek - Excessive sediment, high temperature, flow alteration
Pleasant Valley Creek - Excessive sediment, high temperature, flow alteration

HUC #17050104

Red Canyon Creek - Excessive sediment, high temperature, flow alteration

Results of monitoring in 1999 by Idaho Department of Environmental Quality (IDEQ) show that existing uses of the North Fork Owyhee River and tributaries as well as the Middle Fork Owyhee River include: cold water biota, salmonid spawning and rearing of redband trout, secondary contact recreation, and agricultural water supply. Existing uses of North Fork Owyhee River and Middle Fork Owyhee River also include primary contact recreation, domestic water supply and special resource waters.

All water bodies are required to meet Idaho water quality standards for designated beneficial uses within the State of Idaho. Section 401 of the Clean Water Act states that in the case of interstate waters where state criteria differ, the more restrictive standard must be met at the border. The State of Oregon included the Middle Fork Owyhee River and North Fork Owyhee River on their 1998 303(d) list for high stream temperature.

Stream temperature data from water bodies within the North Fork Owyhee Hydrologic Unit (HUC) show that stream temperatures exceed the current Idaho and Oregon water quality standards for cold water biota, salmonid rearing and salmonid spawning during the designated spawning period. For that reason the "North and Middle Fork Subbasin Assessment and Total Maximum Daily Load (TMDL)" document was prepared. Data collected and reviewed during this process did not support the excessive sediment classification, however there can be no increases to the current sediment load that would impair existing uses. This data collection and review process also did not indicate an excess of bacteria in the system, therefore no bacteria load reduction was proposed. EPA does not require flow alteration to be addressed as a TMDL pollutant therefore flow alteration is not addressed.

All pollutants listed in the 1998 303(d) list are nonpoint sources originating on public, state or private lands within fifth order hydrologic units (HUC 17050107.06 &.08) which in part include the North and Middle Fork Owyhee Rivers and their tributaries, and HUC 1705014.01 which includes Red Canyon Creek in southwest Idaho (see Map WQRP1).

The above listed pollutants, with the exception of flow modification, are the result of (streambank) damage and loss of (streambank) shade due to livestock grazing. Road crossings are a minor source of sediment. (See "North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load.")

B. Recovery goals and objectives:

The recovery goal is to comply with the Clean Water Act and Idaho Water Quality Standards for temperature, sediment and bacteria on streams crossing public lands in the Trout Springs Allotment and Hanley FFR.

Objectives include: improve herbaceous and woody species diversity, composition, density, vigor, cover, structure and root-mass; reduce streambank damage; reduce bacteria contamination of the streams.

The vegetation community required to meet the standard for temperature is expected to be:

- Woody species density and canopy cover providing 80% or more stream shading.
- A preponderance of late seral stage hydric herbaceous species such as Nebraska sedge and beaked sedge.

C. Restoration Plan

Best Management Practices proposed to address the pollutant sources are as follows:

Trout Springs Allotment:

- Pastures 1 and 3 would be grazed by 555 cattle from June 15 to July 15 for two years then rested for two years on an alternating basis, i.e., Pasture 1 would be grazed 2 years then rested 2 years while pasture 3 is grazed. Pasture 2 would be grazed every year from July 16 to August 30, but accessible stream segments would be fenced to eliminate livestock use. Pasture 4 would be grazed by cows and horses from July 1 to October 31 every year. The Fairyland Pasture would be grazed from July 1 to Dec. 31 every year.

- Utilization of blue bunch wheatgrass, or needle grass, bottlebrush squirreltail, Idaho fescue or mountain brome will not exceed 50% of current years growth at key areas in pastures 1-4 as determined by the Quantitative Assessment Landscape Appearance Method (formerly known as the Key Forage Plant Method).

- At least a 6-inch median stubble height would be attained for key hydric herbaceous species such as Nebraska sedge and beaked sedge at the end of the growing period in the riparian area along Middle Fork Owyhee River, West Fork Red Canyon, Squaw Creek, Cottonwood Creek, Pleasant Valley Creek, Thomas Creek, Little Thomas Creek, Smith Creek and Little Smith Creek.

- Utilization of key riparian browse vegetation will be measured in terms of incidence of use. The incidence of use on such shrubs as willow, alder and dogwood will not exceed 25% on those plants generally less than 3 feet in height in any given year on the above listed streams.

- Streambank damage attributable to livestock grazing will not exceed 10 % on any stream segment.

- Salt and supplement will not be placed within one quarter mile of riparian areas, springs, streams, meadows, aspen stands, playas, or water developments.

- Fences between pastures 1, 2, and 3 will be re-aligned. Albiston Spring will be developed in the southern portion of Pasture 2. Middle Fork Spring will be developed in the southern portion of Pasture 1.

Hanley FFR:

- Hanley FFR Allotment will be grazed at the discretion of the permittee, however use will occur between June 1 and December 31 and not exceed 50% utilization of key forage plants.

The above described Terms and Conditions are in compliance with the Natural Resources Conservation Service, Conservation Practice Standards for Prescribed Grazing, Code 528A.

D. Margin of Safety

How and to what extent the practice or group of practices is likely to reduce the pollutants and result in compliance with the Water Quality Standards.

In pastures 1 and 3, alternating two years of late spring/early summer grazing (June 15 to July 15) and two years of rest would facilitate recovery of riparian/aquatic habitats, through the elimination of most hot season grazing use, reductions in overall stocking rates, and providing rest to improve vigor, cover, and density of riparian plants. Fencing to eliminate livestock use of accessible segments of North Fork Owyhee River and Cottonwood Creek in pasture 2 would result in improvements in riparian plant communities in that pasture.

The availability of palatable herbaceous plants in the uplands of pastures 1 and 3 should induce livestock to spend more time out of the riparian zone thus reduce the use of riparian plants as well as reduce the amount of soil compaction and bank trampling. Also, there would be an expected reduction in livestock use of woody riparian plant species thus allowing for increased growth during the critical growth period. Grazing pasture 4 from July 1 to October 31 may cause cattle to seek shade and increase their impacts in the Squaw Creek Water Gap. This increase in use should not result in a significant effect on water quality of Squaw Creek because cattle have access to only about 150 feet of the stream.

There would be little to no regrowth after mid-July of riparian plants grazed or browsed each year. However, the retention of at least 6 inches of stubble height on herbaceous riparian species and 75% of the current years growth of key shrubs would result in improved herbaceous and woody riparian vegetation composition, vigor, cover, structure, density and root mass. Improved vegetative conditions would result in improved buffering of erosive forces of high flows and increased filtering of sediment allowing for bank stabilization and aggradation, and improved levels of shade. Streambank stability should improve, water infiltration and bank storage should increase, and water quality, and fishery habitat should improve.

The narrowing and deepening of the streams associated with bank stabilization and aggradation along with improved stream cover (shade) would reduce water temperature thereby complying with or approaching compliance with the 1999 “North and Middle Fork Owyhee Subbasin Assessment and Total Maximum Daily Load” document and Standard 7 (Water Quality) for Rangeland Health.

E. Implementation Plan

The grazing system is targeted to be implemented in the year 2003. The target date for construction of the spring developments is the year 2003. Fence construction and removal are also targeted for 2003.

Greenline transects and permanent photo trend sites will be established on Middle Fork Owyhee River, West Fork Red Canyon, Squaw Creek, Cottonwood Creek, Pleasant Valley Creek, Thomas and Little Thomas Creeks, and Smith and Little Smith Creeks in the year 2002. Permanent photo trend sites have been established in the Trout Springs exclosure and on North Fork Owyhee River.

F. Estimated Recovery Time

It is expected that a response to the management changes would be observed in as little as 5 years for some streams. Full recovery would be expected in 10 to 15 years on most streams that are functioning at risk. Those streams that are non-functioning would be expected to take 20 years or more for full recovery.

Time frames for stream recovery in this area are based on recovery observation times in nearby exclosures made by Leo Coleman, Natural Resource Specialist, Lower Snake River District BLM.

G. Cumulative impacts of past, present, and future management

It is expected that all streams in the Trout Springs allotment will recover from past and present management under the proposed management system. The Hanley FFR Allotment, which has no riparian habitat on public lands represents 4% of the Cherry Creek hydrologic unit or about 0.3% of the public lands in the Middle Owyhee HUC# 17050107. Trout Springs Allotment represents 16.5% North Fork Owyhee hydrologic unit and 7% of the Middle Fork Owyhee hydrologic unit or 9.3% of public lands in the Middle Owyhee HUC# 17050107. It also includes 7% of the Nickel Creek hydrologic unit, 3% of the Red Canyon hydrologic unit, and 0.2% of the Deep Creek hydrologic unit of the Upper Owyhee HUC# 17050104.

The proposed improved management on the Trout Springs Allotment will have the greatest affect on streams located entirely within the allotment, however it will have positive impacts on all streams associated with the allotment.

The headwaters of many streams are located within this allotment. The establishment of deep-rooted species such as sedge, rush and willow will help these stream headwaters to deepen and narrow and also increasing stream shading, which will provide cooler water with less sediment and bacteria to downstream reaches. This, in conjunction with the development of upstream seed sources, will help the lower reaches to recover more rapidly when the new grazing systems are implemented there.

H. Monitoring Plan

The greenline transect monitoring method, as described in "Water Quality Monitoring Protocols - Report No. 8, (Protocols for Classifying, Monitoring, and Evaluating Stream/riparian Vegetation on Idaho Rangeland Streams. Idaho Department of Health and Welfare, Division of Environmental Quality, 1992.)", will be the primary monitoring tool.

No greenlines have been established in the Trout Springs or Hanley FFR allotments to date. They will be established on Middle Fork Owyhee River, West Fork Red Canyon, Squaw Creek, Cottonwood Creek, Pleasant Valley Creek, Thomas Creek, Little Thomas Creek, Smith Creek, and Little Smith Creek in the year 2002.

Photo Trend points have been established in the Trout Springs exclosure and on the North Fork Owyhee River. Additional Photo Trend Points will be established on Middle Fork Owyhee River, West Fork Red Canyon, Squaw Creek, Cottonwood Creek, Pleasant Valley Creek, Thomas Creek, Little Thomas Creek, Smith Creek, and Little Smith Creek in the year 2002.

Utilization studies for herbaceous and woody species will be conducted annually as discussed in section C.

Stream temperature will be monitored at 5 year intervals, or as deemed necessary to gather background data and to determine compliance with Idaho Water Quality Standards.

Functioning Condition assessments will be conducted at 10 year intervals or when a change in functioning condition is apparent, whichever comes sooner.

All monitoring is subject to future funding and available personnel.